Original Research Paper

An ethnobotanical survey on hormozgan province, Iran

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Abstract

Objective: The present study is based on an ethnobotanical research project conducted in Hormozgan province that is located in south of Iran, bordering waters of the Persian Gulf and Oman Sea. This survey was carried out in order to recover the ethnobotanical and ethnomedicinal knowledge of the residents of this province. They are using medicinal and functional plants for treating or preventing several diseases.

Materials and Methods: Ethnobotanical data sheets were run with the native inhabitants and people of the province by arranging frequent field trips to different parts of the province and direct interviews with them especially those who were more familiar with the plants and their usage.

Results: A total of 150 plant species belonging to 53 families were recorded for their ethnobotanical and ethnomedicinal uses among the people of province. The records were developed by scientific names, family names, local names, medicinal parts used, different ways of their application, and traditional uses of the plants. There was high compliance in the use of plants in painful disorders, gastrointestinal, and dermatological diseases.

Conclusion: This study revealed that the people of Hormozgan province have a rich knowledge of natural resources. The use and consumption of medicinal plants are still important parts of their life. Rational use of native medicinal plants may benefit and improve their living standards and quality of life. The results of this study can be used as a basis for selecting herbs for further pharmacological, phytochemical, and pharmacognostical studies.

Keywords: Ethnobotany, Hormozgan, Iran, Medicinal Plants, Persian Gulf

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Introduction

Ethnobotany, understanding of knowledge systems through using anthropological methods, and ethnomedicine, as its branch are as old as man himself. Ethnobotany and ethnomedicine consider the collection of useful medicinal plants by a group of people and describing different uses of them. Utilizing plants for medicinal purposes has been done since the dawn of man (Namsa et al., 2011; Oliveira et al., 2011). Little by little people observed special interesting effects from each plant. Some of these people became experts in treating several ailments and illnesses using efficient plants and then they passed their knowledge to others verbally or by personal experiences (Kunwar et al., 2010; Zolfaghari et al., 2012). During this processes some information may be lost, vanished, or forgotten due to the society modernization so in this study we decided to collect these valuable documents and traditional knowledge in one of the southern provinces of Iran, Hormozgan. As a result, we can improve the quality of life and living standards of the native people by rational and standard using of medicinal plants along with effective synthetic drugs (Namsa et al., 2011; Oliveira et al., 2011).

Nowadays, almost 80% of world population uses medicinal plants for their primary healthcare needs because they are effective, cheap, and available (WHO, 2007). About 70,000 plant species are used in traditional medicine and nearly a tenth part of them are used in Asia. Iran which is located in southwest Asia, in the northern hemisphere, contains rich ecosystems and biodiversity due to the various climatic conditions and geographical characteristics (Bhattarai et al., 2010; Mirdeilami et al., 2011; Naghibi et al., 2005). Iran is surrounded by three seas and a passage toward the oceans. The flora of the country contains more than 8000 species and several of them are used in traditional Iranian medicine (Ghahreman, 1973; Namsa et al., 2011; Sabzian, 2008). A few ethnobotanical researches have been done in Iran and there is no previous published records on ethnobotanical knowledge from the Hormozgan province (Amin, 1991; Ghassemi Dehkordi et al., 2012; Gholass Mood, 2008; Ghorbani, 2005; Ghorbani et al., 2006; Mazandarani, 2006; Miraldi et al., 2001; Mirdeilami et al., 2011; Mosaddegh et al., 2012; Naghibi et al., 2005; Shams Ardekani et al., 2011; Sharififar et al., 2010; Shokri and Safaian, 1993; Soltanipoor, 2005; Zolfaghari et al., 2012).

Geographical and historical overviews

Hormozgan province district is situated in the southeast of Iran (Figure 1). More than 70% of the province is covered by mountains and hills thus it is a mountainous region (IGA, 1983; Zaeifi, 2001). The district is bounded by Kerman province in the north and northeast, Fars and Bushehr provinces in the west and northwest and Sistan and Baluchestan province in the east. The southern parts of this province which is surrounded by warm waters of the Persian Gulf and Oman Sea is approximately 900 km. This province is located between northern latitude 25° 24' to 28° 57' and eastern longitude 53° 41' to 59° 15'. It occupies an area of 70697 km² (IGA, 1983; Sabzian, 2008; Mozaffarian, 1991; Soltanipoor, 2005; Zaeifi, 2001).

The history of Hormozgan province is mixed with the history and geography of the Persian Gulf. Hormoz straight, one of the today’s most sensitive and vital waterways, is situated in political territory of this province. Bandar-Abbas, Bandar Lengeh, Minab, Bandar Charak, Bandar Jask, Roudan, Khamir, Parsian, Sirik, Hadji-Abad, Kish, Hormoz, Abu-Moosa, and Ghesm islands constitute the famous townships and areas of the province. Bandar Abbas is the capital of Hormozgan province and Ghesm is the
largest island of the Persian Gulf (Soltanipoor, 2006; Sabzian, 2008; Attar et al., 2004; Shahi et al., 2011).

Figure 1. Map of the study area (Hormozgan province, south of Iran, bordering waters of the Persian Gulf and Oman Sea) (Zaeifi, 2001; Sabzian, 2008).

Climate and vegetation types

Three types of climate exist in this province. The natural vegetation is forest, rangeland, and desert. Relatively high humidity, irregular, and little rainfalls with hot weather result in growing some special and native plants. Several of these plants are being used for medical purposes by indigenous people (IGA, 1983; Soltanipoor, 2005; Zaeifi, 2001). The average temperature affected by humidity is moderate and rarely gets higher than 45 °C in summers. In the deserts, the temperature is about 0 °C but there is no frigid weather in winters. The annual rainfall is less than 250 mm and relative humidity is more than 80% (IGA, 1983; Morid et al., 2001; Sabzian, 2008; Zaeifi, 2001).

There are 900 plant species in the province that too many of them are medicinal. Different climate conditions result in growing of specific plants such as special marine plants and mangrove (*Avicennia marina*) forests which are very rare (Mozaffarian, 1991; Soltanipoor, 2005; Zaeifi, 2001). Iranian Mangrove forests as unique and highly productive ecosystems of the world were recorded in the Persian Gulf and Oman Sea by Eratosthenes, who was a great geographer about 2300 years ago. Iran has the highest acreage of natural mangrove forest (Ghasemi et al., 2010; Sabzian, 2008).

Materials and Methods

Data collection and field trips were arranged in order to collect information about traditional and folk knowledge of medicinal plants by the local inhabitants, native practitioners, and old people for the treatment or prevention of several ailments. Direct interviews with local people especially those who were more familiar with the herbs and their usage, were the main method. Ethnobotanical data sheets were used to document the medicinal knowledge by holding the direct interviews with people and gathered information was checked again with the people of other neighboring areas (Bhattarai et al., 2010; Mosaddegh et al., 2012; Sharififar et al., 2010; Zolfaghari et al., 2012).

All collected plant specimens were dried, pressed and authenticated with the help of available literature and flora (Ghahreman, 1973; Rechinger, 1982). After the scientific name identification of the plants, the
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specimens were deposited in the herbarium of Hormozgan Agricultural and Natural Resource Research Center, Bandar Abbas. The popular names of plants as well as their pronunciations were recorded.

Results
In this paper information of 150 medicinal plant species were collected. This information contains scientific names, family names, local names, medicinal parts used, ways of their application, and traditional uses of them. A part of therapeutic properties of the mentioned plants were found in scientific resources and literature. This could be valuable since people use these plants because of their local useful effects. The information was sorted in Table 1 alphabetically.

| No. | Scientific name            | Local or official name | Part(s) used          | Ways of application | Uses/ Ailments treated                                                                 |
|-----|----------------------------|------------------------|-----------------------|---------------------|---------------------------------------------------------------------------------------|
| 1.  | *Abutilon fruticosum* Guil. & Perr. | Garshem               | Flower, leaves, seed  | Decoction fresh organ | Wound, acne, pustule, cold, emollient, bronchitis                                      |
| 2.  | *Abutilon hirtum* (Lam.) Sweet | Sherbejan              | Flower, leaves, seed  | Decoction fresh organ | Cold, bronchitis, emollient, acne, wound, pustule, wound healing                      |
| 3.  | *Abutilon muticum* (Delile ex DC.) Sweet | Kharmalchook           | Seed, flower, leaves  | Decoction fresh organ | Wound healing, acne, pustule, cold, bronchitis, emollient                            |
| 4.  | *Acanthophyllum bracteatum* Boiss. | Chubake bargdar        | Root                  | Brew poultice powder | Decongestant, diuretic, wound healing, joint pain, sciatica, emmenagogue             |
| 5.  | *Acanthophyllum squarrosum* Boiss. | Chubakeriz             | Root                  | Brew poultice powder | Cold, joint pain, sciatica, gluteus pain, wound healing, diuretic, kidney stones     |
| 6.  | *Achillea eriophora* DC. | Benjerashk, berenjasf, sarzatdu | Flower, leaves        | Poultice powder      | Antipyretic, insects bite, bee bite, snake bite, scorpions bite, wound healing, bleeding |
| 7.  | *Achillea wilhelmsii* C. Koch | Gol sarbarze, Sarbarze, sarbarde, sarzard | Aerial parts esp. flower | Decoction powder | Diarrhea, stomachache, fever, bile, anti-parasite, snake bite, scorpions bite, muscle tonic, fatigue in newly delivered ladies, headache, cold |
| 8.  | *Aerva persica* Merr. | Porzu, ethag, gormenaku | Leaves               | Powder               | Wound                                                                                |
| No. | Name                                      | Family     | Part   | Preparation          | Use                                                                  |
|-----|-------------------------------------------|------------|--------|----------------------|----------------------------------------------------------------------|
| 9.  | *Alyssum homalocarpum* Boiss.             | Cruciferae | Seed   | decoction            | Intestine emollient                                                   |
| 10. | *Ammi majus* L.                          | Umbellifera| Seed   | Brew powder          | Flatulence, diuretic, carminative, tonic, digestant, dyspepsia       |
| 11. | *Amygdalus lycoides* Spach                | Rosaceae   | Aerial parts | Decoction fresh organ | Headache, burning wounds                                             |
| 12. | *Amygdalus scoparia* Spach                | Rosaceae   | Twigs, resin | Decoction fresh organ | Pain of different parts, back pain, foot pain, pertussis             |
| 13. | *Anagalis arvensis* L.                    | Primulaceae| Aerial parts | Brew poultice decoction | Nephritis, insect bites, jaundices, diuretic, painful wounds, bile wound healing, expectorant, chest & urination disease |
| 14. | *Anchusa italica* Retz.                   | Boraginaceae| Leaves | Decoction            | Cold, sore throat, chest pain                                        |
| 15. | *Andrachne aspera* Spreng.                | Euphorbiaceae| Stem  | Fresh organ          | Pterygium                                                           |
| 16. | *Artemisia Aucheri* Boiss.                | Compositae | Leaves | Fresh organ powder   | Stomachache                                                         |
| 17. | *Artemisia scoparia* Waldst. & Kit        | Compositae | Leaves | Decoction fresh organ | Flatulence in children, joint pain & rheumatism, hydrocele          |
| 18. | *Arundo Donax* L.                        | Gramineae  | Root rhisome | Decoction            | Alopecia, diuretic                                                   |
| 19. | *Astragalus fasciculifolius*              | Papilionaceae| Resin  | Powder               | Cold, fatigue, tightening bone fractures                             |
| 20. | *Astragalus mucronifolius* Boiss.         | Papilionaceae| Root   | Decoction            | Back pain, bone fracture                                             |
| 21. | *Avicennia marina* (Forsk.) Vierh.        | Avicenniaceae| Fruit | Poultice fresh organ | Snakebite, contraception, sexual stimulant, sexual enhancing, abscess, blotch & wound |
| 22. | *Bienteria cycloptera* Bunge              | Chenopodiaceae| Leaves | Decoction            | Hyperlipidemia, hyperglycemia                                         |
| 23. | *Blepharis persica* (Burn.) O. Kuntze     | Acanthaceae| Leaves, seed, root | Fresh organ         | Appetizing, astringent, energizer, tonic, mental discomforts, diuretic, styptic, anti-inflammatory, antitussive, hepatic and splenic discomforts |
| No. | Species                                      | Family                  | Part(s)                | Preparation | Uses                                                                 |
|-----|--------------------------------------------|-------------------------|------------------------|-------------|----------------------------------------------------------------------|
| 24. | *Boerhavia diffusa* L.                     | Nyctaginaceae           | Leaves, root           | Fresh organ | Joint pain, appetizing, tonic, expectorant, carminative, diuretic, jaundice, internal inflammation, edema |
| 25. | *Brassica Tournefortii* Gouan               | Cruciferaceae           | Aerial parts           | Fresh organ | Food additive, appetizing                                           |
| 26. | *Bunium persicum* (Boiss.)                 | Umbelliferae            | Seed                   | Decoction powder | Toxicity, antitussive, decongestant, children earache, newly delivered ladies recovery |
| 27. | *Capparis cartilaginea* Deene              | Capparidaceae           | Leaves, fruit          | Fresh organ | Rheumatism, joint pain, wounds                                      |
| 28. | *Capparis decidualis* (Forssk.) Edgew.     | Capparidaceae           | Leaves, twig           | Powder      | Antipyretic                                                          |
| 29. | *Capparis spinosa* L.                      | Capparidaceae           | Leaves, fruit          | Fresh organ | Joint pain, rheumatism, abdominal pain                              |
| 30. | *Capsella bursapastoris* (L.)              | Cruciferae              | Leaves, stem, latex    | Poultice fresh organ | Bleeding, superficial inflammations, wound healing                |
| 31. | *Caralluma edulis* Benth.                  | Asclepiadaceae          | Stem, succulent stem   | Fresh organ | Parasite diseases, used as vegetable                                |
| 32. | *Caralluma oxyacantha*                     | Compositae              | Leaves                 | Decoction   | Kidney pain                                                          |
| 33. | *Caralluma tuberculata*                    | Asclepiadaceae          | Succulent stem         | Fresh organ | Parasite repellent                                                  |
| 34. | *Cassia italica* (Miller) F.W. Andrews     | Caesalpinaceae          | Leaves                 | Powder      | Laxative, cathartic                                                 |
| 35. | *Centaurea Bruguierana* (DC.)              | Compositae              | Leaves, flower         | Decoction   | Headache, antipyretic, anti-scorpions bite                          |
| 36. | *Centaurea tenfolium* (Hoffm. & Link) Fritsch | Gentianaceae           | Flower, leaves         | Brew fresh organ | Wound healing, hepatic and nephritic distress, jaundice, young girls anemia, diabetes, eczema |
| 37. | *Cleome brachycarpa* Vahl. ex DC.          | Capparidaceae           | Aerial parts            | Decoction powder | Toxicity of snake bite & scorpions bite                           |
| 38. | *Cocculus pendulus* (J.R. & G. Forst.) Diels | Menispermaceae         | Root                   | Decoction    | Antipyretic                                                         |
| No. | Latin Name                  | Family       | Habitat          | Part            | Preparation         | Uses                                      |
|-----|-----------------------------|--------------|------------------|-----------------|---------------------|-------------------------------------------|
| 39. | *Convolvulus glomeratus* Choisy | Convolvulaceae | Pichak            | All parts       | Fresh organ         | Cathartic                                |
| 40. | *Convolvulus leptocladus* Boiss. | Convolvulaceae | Rontazg           | Root            | Powder              | Cathartic                                |
| 41. | *Convolvulus spinosus* Burm. | Convolvulaceae | Pichak khari      | Flower          | Fresh organ         | Cathartic, antiparasite                   |
| 42. | *Conyza Canadensis* (L.) Cronq. | Compositae   | Pirbaharakebagh   | Whole plant esp. | Brew                | Wound healing, kidney stones, bleeding during menstruation, elimination of female secretions |
| 43. | *Corchorus tricularis*      | Tiliaceae    | Katan             | All aerial parts | Decoction fresh organ | Emollient                                |
| 44. | *Corrnula monocantha*       | Chenopodiaceae | Javen, sekhur, kharune | Leaves          | Fresh organ         | Snake bite, scorpion bite, bee bite, wound healing |
| 45. | *Cotoneaster kotschyi* Klotz | Rosaceae     | Shirkhesht        | Fruit           | Decoction           | Jaundice, cooling                        |
| 46. | *Cymbopogon Olivieri* (Boiss.) Bor | Gramineae | Paashaaam, nagerd, zeghibar, maade | Green leaves | Decoction           | Cooling, stomachache, bone pain, fever lowering, measles, cold |
| 47. | *Cyperus rotundus* L.       | Cyperaceae   | Pizg              | Rhizome, root   | Decoction fresh organ | Dysentery, diuretic, gastric ailments, diarrhea, menstruation inducer, sweating inducer, parasite repellent, wound healing, pruritus, appetizing |
| 48. | *Dalbergia sisso* Roxb.     | Papilionaceae | Jak               | Stem bark       | Decoction           | Tonic, appetizing, abortion, emollient, indigestion, dysentery, antiparasite |
| 49. | *Daphne oleoides* Schreb.   | Thymelaeaceae| Terbid, terbit    | Peel, stem, leaf| Decoction fresh organ | Antipyretic, elimination of the pruritus & pain of a kind of insect bite called sisko |
| 50. | *Datura innoxia* Miller     | Solanaceae   | Megena, permengenas, kopakemengenas | Leaves, flower, seed | Decoction brew     | Demulcent in asthmatic patients, cutaneous disease, washing swelling feet, antitussive |
| 51. | *Demostachia hippocinata* L. | Gramineae    | Kertaki, kertah   | Root            | Fresh organ         | Jaundice, peptic disorders, emesis, nephritic disease, rash, kidney stones |
| 52. | *Dionysia revoluta* Boiss.  | Primulaceae  | Esfande mohammadi, gazi, gurzi | Aerial parts    | Decoction fresh organ | Antiseptic, wound healing, gastric distress, stomachache, joint pain, insect bite, emollient in cold, ecchymosis, fatigue |
| 53. | *Dodonaea viscose* (L.) Jacq. | Sapindaceae  | Shahaf, mordang, nader, naterak | Leaves          | Fecotion fresh organ | Headache, bone pain, foot pain, papule & blotch healer |
| No. | Name                                           | Family           | Part Used      | Preparation | Uses                                      |
|-----|------------------------------------------------|------------------|----------------|-------------|-------------------------------------------|
| 54  | *Echinops Aucheri* Boiss.                     | Compositae       | Resin          | Decoction   | Emollient in cold & pectoralalgia, laxative |
| 55  | *Eclipta prostrate* (L.) L.                    | Compositae       | Aerial parts   | Decoction fresh organ | blood purifier                            |
| 56  | *Ephedra major* Host                          | Ephedraceae      | Stem, root, fruit | Decoction | Rheumatism, syphilis, respiratory ailments |
| 57  | *Erodium cicutarium* (L.) L’Her.              | Geraniaceae      | Sikh shabgard  | Decoction   | Toothache                                 |
| 58  | *Euphorbia larica* Boiss.                     | Euphorbiaceae    | Paah, paragh   | Latex       | Wound healing                             |
| 59  | *Euphorbia osyridea* Boiss.                   | Euphorbiaceae    | Rutazgh        | Root        | Constipation                              |
| 60  | *Euphorbia turcomanica* Boiss.                | Euphorbiaceae    | -              | Fresh organ | Cold                                      |
| 61  | *Ferula asa-feotida* L.                       | Umbelliferae     | Heng, anghuzeh, angosht gandk, engez | Resin or latex, root | Powder                                   |
| 62  | *Fortunia bungei* Lack                        | Cruciferae       | -              | Seed, twig  | Bone pain, joint aches, flatuosity        |
| 63  | *Francoeuria undulate* (L.) Lack               | Compositae       | Porz, tahre    | Fresh organ | Children complaints                       |
| 64  | *Fumaria parviflora* Lam.                     | Fumariaceae      | Shahtareh, shatareh | Leaves, stem | Decoction                                |
| 65  | *Gailonia Aucheri* Jaub. Spach                | Rubiaceae        | Toosoo, boogandoo, titisko, khargol, kartos | Leaves, twig, flower | Fresh organ brew |
| 66  | *Geranium rotundifolium* L.                    | Geraniaceae      | Suzanuk        | Root        | Diarrhea, diuretic, astringent           |
| 67  | *Gisekia pharnaceoides* L.                     | Molluginaceae    | -              | All parts   | Powder                                   |
| 68  | *Glaucium flavum* Crantz                      | Papaveraceae     | Shaghbayegh shakhidarezard | Powder | Laxative                                 |
| 69  | *Glossonema variance* Deene                    | Asclepiadaceae   | -              | Fruit       | Cooling, digestant                       |
| 70  | *Glycyrrhiza glabra* L.                       | Papilioceae      | Shirinbuyan, chobshirin, mahak, marah | Leaves, stem, root | Fresh organ decoction |

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| No. | Scientific Name                  | Family         | Common Names                                                                 | Part(s) Used                | Preparation         | Medical Uses                                      |
|-----|----------------------------------|----------------|------------------------------------------------------------------------------|----------------------------|---------------------|--------------------------------------------------|
| 71. | *Grantia Aucheri* Boiss.         | Compositae     | Halamook, halamoogh, kalmir, talpik nar, kalmuru                             | Leaves                     | Fresh organ        | Pain                                             |
| 72. | *Grewia tenax* (Forsk.) Fiori    | Tiliaceae       | Pootooroo, pootroo                                                          | Stem                       | Decoction           | Cough, flank pain                                |
| 73. | *Hammada salicornica* (Moq.) Lijin. | Chenopodiaceae | Zaaz, jar, terat, pesker, rems, jaru                                        | Leaves                     | Fresh organ decoction | Antipyretic, sensitivity of bees bite, wound healing |
| 74. | *Heliotropium bacciferum* Forsk. | Boraginaceae   | Aftabparast, ramram, defrak, rafetork, debrak, mispara                      | Aerial parts               | Fresh organ        | Wound bleeding, wound healing                    |
| 75. | *Heliotropium europaeum* L.      | Boraginaceae   | Kolohmu, balghandu                                                          | Leaves, flower, seed, twig | Brew fresh organ   | Gout, cardiac tonic, headache, kidney stone, worm repellent |
| 76. | *Herniaria hirsuta* L.           | Paranychiaceae | Alafe fatgh kork alud                                                       | Aerial parts               | Decoction brew      | Washing wound & eye, kidney stone, almost all of kidney & bladder diseases, jaundice, female secretion |
| 77. | *Hippocrepis unisilliquosa* L.   | Papilionaceae  | Naal asbi                                                                    | Aerial parts               | Fresh organ        | Wound healing                                    |
| 78. | *Hymenocarpus circinnatus* (L.) Savi | Papilionaceae | -                                                                            | Aerial parts               | Fresh organ        | Abcess                                           |
| 79. | *Hyoscyamus muticus* Bornm.      | Solanaceae     | Bazrolbanj                                                                  | Seed                       | Smokes fumes       | Toothache                                        |
| 80. | *Juniperus excelsa* M.B.         | Cupressaceae   | Ouras, abras, aras, hooras, gazkooh                                         | Leaves, fruit              | Decoction fresh organ | Rheumatism, dermal allergies, joint pain, back pain, foot pain, earache, diarrhoea |
| 81. | *Lagoecia cuminoides* L.         | Umbelliferae   | -                                                                            | Aerial parts               | Fresh organ        | Bile stone repellent                             |
| 82. | *Lalemanantia royleana* Benth.   | Lamiaceae      | Balangu                                                                     | Seed                       | Powder              | Gum bleeding, psychotic disease, tonic           |
| 83. | *Lanauae malicaulis* (L.) Hook. f. | Compositae     | Kahusa                                                                      | Leaves                     | Fresh organ        | Fever in children                                |
| 84. | *Lanauae procumbens* (Roxb.)     | Compositae     | Bonmoghi, nonak                                                             | Leaves                     | Fresh organ        | Urination difficulty in children                 |
| 85. | *Lavandula stricta* Del.         | Lamiaceae      | Ostokhodoos, ghadaar                                                       | Aerial parts               | Fresh organ decoction | Rheumatism, cold, bone pain, carminative, abdominal cramps |
| 86. | *Leptadenia pyrotechnica* (Forsk.) | Asclepiadaceae | Shahm nar, shahm oshtori, garishahk                                        | Aerial parts               | Powder              | Carminative, wart, cutaneous fungal disease      |

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| No. | Species                          | Family            | Parts Used  | Use                          |
|-----|---------------------------------|-------------------|-------------|------------------------------|
| 87. | *Lycium Shawii* Roemer & Schult | Solanaceae        | Twigs, leaves, fruit | Decoction | Gastric ailments, wound healing |
| 88. | *Malva parviflora* L.          | Malvaceae         | Seed        | Decoction | Cold |
| 89. | *Mentha longifolia* (L.) Hudson | Lamiaceae         | Leaves, root | Decoction fresh organ brew | Carminative, diarrhea, cold, gastric ailments, stomachache, headache, antipyretic |
| 90. | *Mentha mozaffariani* Janzad    | Lamiaceae         | Leaves, twigs | Brew fresh organ | Cooling, diarrhea, stomachache, headache, carminative |
| 91. | *Mesembryanthemum nodiflorum* L. | Aizoaceae         | Aerial parts | Decoction | Hives |
| 92. | *Micromeria persica* Boiss.     | Lamiaceae         | Leaves      | Decoction | Acute fever, cold, stomachache, bone pain, carminative, abdominal discomforts |
| 93. | *Myriophyllum verticillatum* L. | Haloragaceae      | Leaves      | Fresh organ | Antipyretic, chronic dysentery, children cold |
| 94. | *Nannorrhops Ritchianca* H. Wendl. | Palmae           | Young leaves | Fresh organ | Diarrhea |
| 95. | *Nerium indicum* Miller         | Apocynaceae       | Leaves, latex | Fresh organ | Joint pain, gonalgia, foot pain, foot & hand edema remedy |
| 96. | *Ochradenus Aucheri* Boiss.     | Resedaceae        | Twigs, fruits | Brew decoction fresh organ | Stomachache, neck pain, pectoralgia |
| 97. | *Otostegia Aucheri* Boiss.      | Lamiaceae         | Root         | Brew decoction fresh organ | Hair tonic, strengthening gums, dental cleaning & brightness, prevention of hair loss |
| 98. | *Otostegia persica* (Burn.) Boiss. | Lamiaceae        | Leaves, flower, thistle | Brew decoction fresh organ | Cardiac distress, reducing palpitation, regulating blood pressure, laxative, carminative, antipyretic, cough, headache, gastric discomfort, parasite repellent |
| 99. | *Pentatropis spiralis* (Forssk.) Decne. | Asclepiadaceae | Shahm | Roots | Astringent, tonic, cooling, gonorrhea |
| 100.| *Pergularia tomentosa* L.       | Asclepiadaceae    | Leaves      | Powder fresh organ | Remedy for wounds in scorpions bite, wound healing |
| 101.| *Perovskia artemisioides* Boiss. | Lamiaceae         | Seed        | Fresh organ | Rash, bone pain |
| No. | Scientific Name                          | Family            | Parts Used | Preparation     | Uses                                                                 |
|-----|-----------------------------------------|-------------------|------------|-----------------|----------------------------------------------------------------------|
| 102 | *Phragmites australis* (Cav.) Trin. Ex Steud. | Gramineae         | Root       | Brew            | Parasitic disease of stomach & intestine, flatulence                  |
| 103 | *Physalis divaricata* D. Don.            | Solanaceae        | Leaves     | Fresh organ     | Abdominal pain in children                                           |
| 104 | *Pistacia atlantica* Desf.               | Anacardiaceae     | Leaves, flower, resin | Decoction fresh organ powder | Acne, diarrhea, septic sore throat, back pain, old wounds, expectorant, infant GI tonic, children flatulence, anti rash, chest pain |
| 105 | *Plantago amplexicaulis* Cav.            | Plantaginaceae    | Aerial parts | Powder decoction syr up | Diarrhea, chest pain, strengthening children skeleton, stomachache, heatstroke, wounds, edema repellent |
| 106 | *Plantago glaucescens* (Boiss.) Boiss.   | Compositae        | Leaves     | Powder decoction | Wound healing, stomachache                                           |
| 107 | *Prospis cineraria* (L.) Durce          | Mimosaceae        | Leaves, flower, resin | Fresh organ powder | Cutaneous fungal disease, wound healing, anemia in pregnant women, diarrhea |
| 108 | *Pteropyrum Aucheri* Jaub. & Spach       | Polygonaceae      | Leaves, flower, root, stem | Decoction fresh organ | Bone, hand, leg & Knee pain, toothache, headache, back pain, wound healing, washing wounds |
| 109 | *Pycnochla Aucherana* Decne. Ex Boiss.  | Umbelliferae      | Leaves, stem | Fresh organ     | Back, leg & other part muscles pain                                  |
| 110 | *Ranunculus muricatus* L.               | Ranunculaceae     | Aerial parts | Fresh organ     | Antipyretic                                                           |
| 111 | *Reseda Aucheri* Boiss.                  | Resedaceae        | Leaves     | Fresh organ     | Remove the toxicity & sensitivity of snake bite, insect bite, scorpions bite |
| 112 | *Rhazya stricta* Decne.                 | Apocynaceae       | Leaves     | Decoction fresh organ | Bone pain, rheumatism, joint pain, toothache, eye pain               |
| 113 | *Rhizophora mucronata* Poir.            | Rhizophoraceae    | Stem bark  | Powder          | Wound healing                                                        |
| 114 | *Rumex dentatus* L.                     | Polygonaceae      | Seed       | Decoction       | Menstruation regulator, stops bleeding during menstruation            |
| 115 | *Salvadora persica* L.                  | Salvadoraceae     | Leaves, root | Toothpick       | Headache, joint pain, cleaning teeth, strengthening gum              |

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| No. | Species Name | Family | Part(s) Used | Preparation | Uses |
|-----|--------------|--------|--------------|-------------|------|
| 116 | Salvia macrosiphon Boiss. | Lamiaceae | Buing Seed Powder | Weakness, regulating cardiac action during pregnancy, lethargy after child birth |
| 117 | Salvia Mirzayanii Rech. F. & Esfand. | Lamiaceae | Moortalkh, marve tahl, shir ghanam, mor porzu Leaves Powder decoction | Heart burn, diarrhea, emesis, stomachache, abdominal pain, flatulence, cooling, hyperlipidemia, hyperglycemia, jaundice, joint pain, headache, wound healing, scorpions scurry |
| 118 | Salvia Sharifii Rech. F. & Esfand. | Lamiaceae | Borzoi, borooj, babriz, marmareshk Seeds Powder decoction syrup | Emollient, cooling, wounds, diarrhea |
| 119 | Samolus Valerandi L. | Primulaceae | Alaf juibari All parts Decoction | Astringent |
| 120 | Scorzonera paradoxa Fisch. & C.A. Mey. | Compositae | komboluh Bulb Fresh organ | Laxative |
| 121 | Solanum incamum L. | Solanaceae | Limoo aboojahl, limoo torgi, genj torgi, gelgelengak tourgi Fruit, seed Decoction | Wound, blotch, pustule treatment |
| 122 | Sonchus asper (L.) Hill | Compositae | Shirighak Leaves, root, stem, flower, fruit Fresh organ | Earache, asthma, chest discomforts, organ inflammation |
| 123 | Sophora mollis (Royle) Backer | Papilionaceae | Tallkhak, kalkhak Root, seed, leaves Decoction poultice | Cholera, irregular bile secretion, laxative, cathartic |
| 124 | Stachys inflata Benth | Lamiaceae | Mohrkhari Leaves Decoction powder | Stomachache |
| 125 | Suaeda fruticosa (L.) Chenopodiaceae | | Jar, kakol masilela Leaves Decoction | Jaundice |
| 126 | Tamarix dioica Roth. | Tamaricaceae | Gaz Stem bark, gall leafy branches Poultice | Astringent, diarrhea, dysentery, cough, wound |
| 127 | Tamarix masquatensis Bge. | Tamaricaceae | Gaz, gaxe roodkhaneh, gazaq Leaves Decoction | Joint pain, bone pain, softening muscle |
| 128 | Tanacetum fruticulosum Ledeb. | Compositae | Dermene shah Leaves Fresh organ | Stomachache, abdominal pain, flatulence |
| 129 | Taverniera spartea (Burn, f.) DC. | Papilionaceae | Laati, horosh nar Stem Decoction | Bone fractures |
| 130 | Tecomaella anbulate (Rosh.) G. Don. | Bignoniaceae | Anare sheytani, anare aboojahl Whole plant Fresh organ | liver and gastrointestinal diseases |
| No. | Species                      | Family           | Part Used          | Preparation    | Uses                                                      |
|-----|------------------------------|------------------|--------------------|----------------|-----------------------------------------------------------|
| 131 | *Tephrosia persica* Boiss.  | Papilionaceae     | Leaves             | Fresh organ    | Scorpions bite, snake bite treatment                       |
| 132 | *Teucrium orientale* (L.)  | Lamiaceae         | Leaves, flower     | Decoction      | Hoarseness                                               |
| 133 | *Teucrium pollium* L.       | Lamiaceae         | Flower, leaves, seed | Powder decoction | Stomachache, abdominal pain, flatulency, diarrhea, regulating blood pressure, menstruation in newly born ladies, measles, eye pain, headache, scorpions bite, snake bite, wound healing |
| 134 | *Teucrium stocksianum* Boiss. | Lamiaceae     | Leaves             | Decoction Powder Fresh organ | Stomachache, abdominal pain, flatulency, diarrhea, regulating blood pressure, lipid lowering, newly born ladies recovery |
| 135 | *Trionanthema portulacastrum* L. | Aizoaceae | Whole plant Powder | Cathartic, laxative, anemia, hemorrhoid, polydipsia, inflammation, pain relief, stomach tonic |
| 136 | *Tribulus macropterus* Boiss. | Zygophyllaceae   | Leaves, flower, fruit Decoction | Kidney pain & discomfort |
| 137 | *Tribulus terrestris* L.    | Zygophyllaceae   | Leaves             | Decoction      | Kidney pain                                               |
| 138 | *Trichodesma africanum* (L.) R. Br. | Boraginaceae   | Root, leaves Brew decoction | Cold, tightening bone fracture, abdominal pain, mouth ulcers, measles, scarlet fever, chickenpox, headache, emollient, chest congestion, children constipation |
| 139 | *Vitex agnus-castus* L.     | Verbenaceae       | Leaves, fruit, flowering twigs Brew decoction | Cold, carminative, energizer, sedative, anticonvulsant, reducing libido |
| 140 | *Vitex Negundo* L.         | Verbenaceae       | Leaves, root, stem bark | Fresh organ | Toothache, rheumatism, carminative, anti-worm |
| 141 | *Vitex trifolia* L.        | Verbenaceae       | Felfel khari, bamplusakh Seed | Fresh organ | Ant repellent |
| 142 | *Withania coagulans* (Stocks) Dun. | Solanaceae | Kheshtbargekaser gkani Fruit, seed Fresh organ | Sedative, diuretic, dyspepsia, flatulency, intestine disorders, emetic, antidote |
| 143 | *Withania somnifera* (L.) Dun. | Solanaceae | Mayepanir Fruit | Fresh organ | Migraine, digestive disorders, hypnotic |
Discussion

There are good network and several phytopharmaceutical industries and a technical wealth of botanical and herbal medicine experts available in Iran, however there has been little effort to document the volume and impact of medicinal plants in this country. More successful efforts are in progress about these fields. The Traditional Medicine Chancellery in the Iranian Ministry of Health and Medical Education was established in 2012 and for the first time in Iranian medical history, offering the postgraduate PhD degrees in Persian traditional medicine and traditional pharmacy sciences in Iranian universities of medical sciences were started from six years ago. Hopes to find more achievements especially in the ethnobotany and ethnomedicine disciplines are flourishing.

By doing this ethnobotanical research and after discussions with the people of Hormozgan province it was learnt that they are very close to the nature like other parts of Iran and the plants listed in the Table 1 are very much used by them for the variety of ailments. The recorded information revealed that the painful ailments, gastrointestinal, dermatological disorders are in the top list of diseases that are treated by native plants. Plant specimens were belonging to 53 families and the most representative families were Lamiaceae and Compositae with 18 and 17 species, respectively, followed by

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**Table 1: Plants Used in Hormozgan Province**

| No. | Plant Name                  | Family          | Cultivated Part(s) | Uses                                                                 |
|-----|-----------------------------|-----------------|--------------------|----------------------------------------------------------------------|
| 144 | *Zataria multiflora* Boiss. | Lamiaceae       | Leaves             | Powder Brew Fresh organ Cold, diarrhea, stomachache, carminative, chest pain, headache, toothache, wound healing, fatigue, antipyretic, bone pain, earache, measles, reducing blood lipid & glucose |
| 145 | *Zhumeria Majdae* Rech. F. & Wendelbo | Lamiaceae | Leaves | Powder Decoction fresh organ Stomachache |
| 146 | *Zizipora tenuir L.* | Lamiaceae | Aerial parts | Brew decoction Gastric discomfort, cold, fever, diarrhea |
| 147 | *Ziziphus jujuba* Mill. | Rhamnaceae     | Fresh fruit, dried fruit | Decoction Laxative, sedative, diuretic, emollient, chest disease |
| 148 | *Ziziphas mammularia* (Burn. F.) Wight & Arn. | Rhamnaceae | Leaves, fruit | Decoction Fresh organ Acne, sore throat, bleeding gums, joint pain, appetizing, gastric tonic |
| 149 | *Zygophyllum qatarense* Hadidi | Zygophyllaceae | Leaves, twigs | Powder Fresh organ Wound healing, earache |
| 150 | *Zygophyllum simplex* L. | Zygophyllaceae | Seed, leaves | Brew Eye disorders, worm killing |
Papilionaceae, Solanaceae, Asclepiadaceae and Umbellifereae, each with less than ten species.

The ethnobotanical usage of medicinal plants in this is interesting and monopolizing and leads researchers and other medical and pharmaceutical experts to investigate further ethnopharmacological and pharmacognostical investigations (Attar et al., 2004; Soltanipoor, 2005; Soltanipoor, 2006). In this way, some species may be used in herbal drug preparation after the confirmation of their therapeutic efficacy and extraction of their active natural ingredients. Although the indigenous knowledge about plants is very important and useful, clinical trials and pharmacological studies should be done to prove their definite phytotherapeutical effects (Kazemi et al., 2012; Kunwar et al., 2010; Ghassemi Dehkordi et al., 2012; Zolfaghari et al., 2012).

During this survey, we completed and compared traditional and folk medicines information using phytotherapeutical and medicinal plants books and literature (Amin, 1991; BHP, 1983; Boger et al., 2006; Emami et al., 2010; IHP, 2002; PDR, 2000; WHO, 2007). The uses of several of these plants are consistent with our latest pharmacognostical and pharmacological findings (Asadipour et al., 2003; Ghanadi et al., 2000; Ghanadi et al., 2010; Ghanadi and Davoodi, 2012a; Ghanadi et al., 2012b; Jaffary et al., 2000; Jaffary et al., 2004; Minaiyan et al., 2005; Mohagheghzadeh et al., 2000a; Mohagheghzadeh et al., 2000b; Mohagheghzadeh et al., 2004; Sadraei et al., 2003a; Sadraei et al., 2003b; Shams Ardekani et al., 2005; Soltanipoor et al., 2003).

There has been relatively little basic research on the plants of Hormozgan province, Iran. This paper indicates that indigenous herbal knowledge is still alive in Iran and local people of Hormozgan province tend to use medicinal herbs and natural health products of their ecosystems for primary healthcare needs.

The ethnobotanical survey of Hormozgan province allowed us to document the persistency of a number of traditional uses of medicinal plants, most of them are unique and original and potentially interesting as a basis for future research works.

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**Conflict of interest**

There is not any conflict of interest in this study.

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