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An Overview on Traditional Medicinal Plants as Aphrodisiac Agent

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This paper presents a review of plants identified from various ethno botanical surveys and folklore medicinal survey with aphrodisiac activity. An aphrodisiac is defined as an agent that arouses sexual desire. Erectile dysfunction (ED) or male impotence is defined as the inability of a man to achieve and maintain an erection sufficient for mutually satisfactory intercourse with his partner. Sexual health and function are important determinants of quality of life. To overcome the problem of Male sexual (or) erectile dysfunction various natural aphrodisiac plants potentials are preferred. This review discuss about aphrodisiac potential of plants, its botanical name, Common name, family, part used and references, which are helpful for researcher to development new herbal aphrodisiac formulations.

Keyword: Erectile Dysfunction, Male Impotence, Aphrodisiac, Herbal Drugs, Sexual Dysfunction.

1. Introduction

Aphrodisiac is the word derived from Aphrodite, the Greek goddess of sexual, love and beauty. An aphrodisiac is defined as an agent (food or drug) that arouses sexual desire. From time immemorial man's endeavour have been to increase his sexual powers. When man did not know metals and used only stones he exhibited his sexual powers by ritual dances accompanied by hunting. This lead early man was motivated by his quest for food, sex and self-preservation. The possibility of bioactive aphrodisiacs which may be derived from plants, animals or minerals, has been attractive throughout recorded history.

Aphrodisiac are mentioned there as Vajikaranas, the word vaji meaning horse and karanta meaning making i.e. Measure to excite lust by charms etc. Many natural substances have historically been known as aphrodisiacs in Africa and Europe, such as Yohimbine and the Mandrake plant, as well as

ground Rhinoceros horn in the Chinese culture and "Spanish fly" which is actually toxic^[1-3]. Sexual relationships are some of the most important social and biological relationship in human life. Male impotence also called Erectile dysfunction (ED) is a common medical condition that affects the sexual life of millions of men worldwide^[4-5]. Erectile dysfunction is defined as the persistent inability to obtain and maintain an erection sufficient for naturally satisfactory intercourse. Sexual dysfunction is a serious medical and social symptom that occurs in 10-52% of men and 25-63% of women. It is the repeated inability to achieve normal sexual intercourse male impotence (or) ED is a significant problem that may contribute to infertility function decreases spontaneously with advanced aging^[6]. It occurs commonly in middle aged and older men. Erectile dysfunction is adversely affected by diabetes mellitus,

antihypertensive, antipsychotic, antidepressant therapeutic drugs. Organic causes of ED like Hypogonadism, hyperprolactinaemia, and neurological disorders. Treatment of ED involves several natural aphrodisiac potentials. Aphrodisiac is described as any substance that enhances sexual pleasure. Sexual dysfunction caused by various factors such as psychological disorders like Anxiety, depression, stress, fear of sex, neurological disorders, stroke, cerebral trauma, Alzheimer, Parkinson's disease and chronic disorders—diabetes, hypertension, vascular insufficiency, Atherosclerosis, penile disease—phimosis, peyronies, life style—chronic alcohol abuse, cigarette smoking, aging, decrease in hormone level with age. Systemic diseases – cardiac, hepatic, renal, pulmonary, and cancer^[7].

The importance of sexuality in human life is well recognized in the Ancient Indian medicine ayurveda as an entire specially is devoted to it under the name “Vijakarna” or virilification therapy. Vijakarna therapy includes aphrodisiacs for erectile dysfunction, causes of infertility, spermatogenesis, semenogenesis, reproduction, methods of correcting defective semen and sexual satisfaction^[8].

1.1 Mechanism involved in Aphrodisiac potentials

On sexual stimulation (visual (or) otherwise the famines of the axons of parasympathetic nerves release nitric oxide (NO) gas. The gas diffuses into smooth muscle cells that line those arteries of the corpus cavernosum (spongy erectile tissue) and activates the enzyme guanylate cyclase (GC). The later converts the nucleotide guanosine triphosphate (GTP) into cyclic guanosine monophosphate (cGMP). The cGMP in turn causes the smooth muscle cells around the penis to relax, leading to dilation and increased flux of blood into the penile tissue. This blood is essentially trapped in the penis and results in an erection. The erection ceases after a while because cGMP is hydrolyzed by phosphodiesterase type-5 enzyme (PDE-5) into inactive GMP. (The PDE-5 enzyme resides in the penile tissues). Aphrodisiac potentials inhibit the hydrolyzing action of PDE-5 with the result that active cGMP can accumulate. ‘Undisturbed’ and prolong the erection through increased blood flow^[9-10].

Traditional Plants Containing Aphrodisiac Potentials

Sr. No.	Name of Plant	Common name	Family	Part used	Reference
1.	<i>Abelmoschus esculantus</i> (L.)	Bhindi	Malvaceae	Root	[11]
2.	<i>Abelmoschus moschatus</i>	Musk mallow	Malvaceae	Seed	[12-13]
3.	<i>Abrus precatorius</i> Linn.	Ganja	Fabaceae	Seed	[14]
4.	<i>Abrus precatorius</i> L.	Crab's Eye	Papilionaceae	Seed	[15-16]
5.	<i>Abutilon indicum</i> (Linn.)	Thuthi	Malvaceae	Seed, root, bark, leaf	[12]
6.	<i>Acacia catechu</i> Willd.	Catechu	Mimosaceae	Heartwood	[12,18]
7.	<i>Acacia nilotica</i> L. Willd.	Gum Arabic tree	Fabaceae	Bark	[19]
8.	<i>Achyranthes aspera</i> Linn.	Apamarg, Latjeera	Amaranthaceae	Root	[11]
9.	<i>Aconitum heterophyllum</i> Wall.	Attesh	Ranunculaceae	Root	[11]
10.	<i>Acorus calamus</i> Linn.	Sweet flag	Araceae	Rhizome	[20-21]
11.	<i>Actinopteris radiata</i> Sw.	Morshikha	Actinopteridaceae	Whole plant	[22]
12.	<i>Adenanthera pavonina</i>	Baragunchi	Mimosaceae	Bark, seeds, leaves	[23]

13.	<i>Alchornea floribunda</i> Mull.	Niando	Euphorbiaceae	Root	[24]
14.	<i>Allium tuberosum</i>	Chinese chive	Zingiberaceae	Seed	[25-26]
15.	<i>Allium sativum</i> L.	Garlic	Liliaceae	Bulb	[12,14,28]
16.	<i>Allium cepa</i> L.	Piaz	Liliaceae	Bulb	[105]
17.	<i>Aloe excels</i> Berger	Zimbabwe Aloe	Asphodelaceae	Leaf	[29]
19.	<i>Aloe vera</i> L.	Dhritkumari	Liliaceae	Gel extracted from leaves	[105]
20.	<i>Alpinia galanga</i> Willd.	Java galangal	Zingiberaceae	Rhizome	[30]
21.	<i>Amaranthus spinosus</i> L.	Chaulai	Amaranthaceae	Leaves, Whole plant	[11]
22.	<i>Anacyclus pyrethrum</i>	Akarakarabha	Compositae	Root	[31]
23.	<i>Asparagus racemosus</i> Willd.	Asparagus	Liliaceae	Root	[32-33]
24.	<i>Arachis hypogaea</i> Linn.	Peanut	Fabaceae	Seeds	[23]
25.	<i>Argyreia nervosa</i>	Adhoguda	Convolvulaceae	Root	[34]
26.	<i>Artocarpus heterophyllus</i> Linn.	Jack tree	Moraceae	Fruit, Seed, Leaves, root	[23]
27.	<i>Aristolochia indica</i> L.	Iswaramul	Aristolochiaceae	Whole plant	[105]
28.	<i>Atylosia scarabaeoides</i> L.	Vantuvar	Papilionaceae	Whole Plant	[105]
29.	<i>Azadirachita indica</i>	Neem	Meliaceae	Root	[11]
30.	<i>Bacopa monnieri</i> L.	Brahmi	Scrophulariaceae	Whole plant	[11]
31.	<i>Bauhinia tomentosa</i> Linn.	Manja Mandaram	Caesalpiniaceae	Seed	[12]
32.	<i>Bauhinia vahlii</i>	Camel's Foot climber	Caesalpiniaceae	Seed	[12]
33.	<i>Bauhinia variegata</i> Linn.	Bauhinia	Caesalpiniaceae	Bark	[12]
34.	Benincasa hispida Cogn.	Ash gourd	Cucurbitaceae	Fruit	[12]
35.	<i>Blepharis edulis</i> Linn.	Utangan/ Shikhi	Acanthaceae	Seeds	[35]
36.	<i>Boerhavia diffusa</i> L.	Punarnava	Nyctaginaceae	Root	[11]
37.	<i>Bombax ceiba</i> Linn.	Silk-Cotton Tree	Bombacaceae	Bark	[12]
38.	<i>Boesenbergia rotunda</i> L.	Temu kunci	Zingeberaceae	Rhizomes	[25,36]
39.	<i>Bryonia laciniosa</i> Linn.	Shivlingi	Cucurbitaceae	Seed	[105]
40.	<i>Bussea occidentalis</i>	Kpayeli	Caesalpiniaceae	Bark, seed	[37]
41.	<i>Butea frondosa</i> Roxb.	Flame-of-the-forest	Papilionaceae	Whole plant	[12, 25]
42.	<i>Cajanus cajan</i> (L.) Millsp.	Arhar	Fabaceae	Root	[11]

43.	<i>Carica papaya</i> L.	Papita	Caricaceae	Fruit	[11]
44.	<i>Cannabis indica</i> L.	Indian hemp	Cannabinaceae	Leaf	[38]
45.	<i>Cannabis sativa</i>	Bhang	Cannabinaceae	Leaf	[11]
46.	<i>Capparis erythrocarpus</i> Isert.	Pitipiti	Capparidaceae	Root	[39]
47.	<i>Capsicum annuum</i> L.	Capsicum	Solanaceae	Seed	[40]
48.	<i>Cassia mimosoides</i> L.	Patwa ghas	Caesalpinaceae	Seeds, Root	[105]
49.	<i>Cassia occidentalis</i> Linn.	Kasondhi	Fabaceae	Leaf	[41]
50.	<i>Cassia sieberiana</i> DC	African laburnum	Caesalpiniaceae	Leaf	[37]
51.	<i>Celastrus paniculatus</i> Willd.	Vandangul	Celastraceae	Seeds	[105]
52.	<i>Chenopodium album</i> L.	White goosefoot	Chenopodiaceae	Seed	[42-44]
53.	<i>Chlorophytum tuberosum</i> Baker.	Safed musli	Liliaceae	Whole plant	[45]
54.	<i>Chlorophytum arundinaceum</i>	Musli	Liliaceae	Root	[105]
55.	<i>Cissus quadrangularis</i> Linn.	Edible stemmed vine	Vitaceae	Root	[12]
56.	<i>Cocculus cordifolius</i> Linn.	Guduchi	Menispermaceae	Stem, leaf, Root	[46]
57.	<i>Cocos nucifera</i> Linn.	Coconut	Arecaceae	Endosperm	[14,47]
58.	<i>Cola acuminata</i> Schott.	Cola	Malvaceae	Seed	[48]
59.	<i>Cola caricaefolia</i> G.Don	Baoguan Leaf	Sterculiaceae	Leaf	[37]
60.	<i>Cola gabonensis</i> Schott & Endl.	Kola nut	Sterculiaceae	Fruit	[24]
61.	<i>Cola nitida</i> Schott & Endl.	Kola nut	Sterculiaceae	Seed	[24]
62.	<i>Cola pachycarpa</i> Schott & Endl.	Kola nut	Sterculiaceae	Seed	[24]
63.	<i>Cola rostrata</i> Schott & Endl.	Kola nut	Sterculiaceae	Seed	[24]
64.	<i>Commiphora caudata</i> Wt. & Arn.	Emporium of medicinal plants	Burseraceae	Root, leaf	[12]
65.	<i>Commiphora mukul</i> Hook. ex Stocks	Indian bdellium tree	Burseraceae	Root, leaf	[12]
66.	<i>Coriandrum sativum</i> Linn.	Coriander	Apiaceae	Leaf	[42]
67.	<i>Corynanthe pachycerus</i> K Schum.	Ivory coast	Rubiaceae	Stem, Bark	[39]

68.	<i>Crocus sativus</i> Linn.	Saffaron	Iridaceae	Stigma	[25]
69.	<i>Curcuma amada</i> Roxb.	Mango ginger	Zingiberaceae	Rhizome	[12-13]
70.	<i>Curcuma angustifolia</i> Roxb.	Tikhur	Zingiberaceae	Rhizome	[105]
71.	<i>Curcuma aromatica</i> Roxb.	Jangli haldi	Zingiberaceae	Rhizome	[105]
72.	<i>Cymbopogon citratus</i> (DC.)	Lemongrass	Poaceae	Whole plant	[12]
73.	<i>Dactylorhiza hatagirea</i> (D. Don) Soo.	Marsh Orchid	Orchidaceae	Root	[20,49]
74.	<i>Dalbergia sissoo</i> Roxb	Shisham	Fabaceae	Wood	[41-42]
75.	<i>Daucus carota</i> L.	Carrot	Umbelliferae	Root	[50]
76.	<i>Desmodium gangeticum</i> Linn.	Desmodium	Fabaceae (Papilionaceae)	Root	[12]
77.	<i>Diodia scandens</i>	Ivory coast abuse	Fabaceae	Roots	[108]
78.	<i>Dioscorea bulbifera</i> Linn	Wild Yam	Dioscoreaceae	Whole plant	[41]
79.	<i>Diospyros melanoxylon</i> Roxb.	East Indian ebony	Ebenaceae	Flower	[12, 41]
80.	<i>Dolichos lablab</i> Linn.	Flat bean, sem	Fabaceae	Seeds	[23]
81.	<i>Drypetes roxburghii</i> (Wall.) Huru.	Putjev	Euphorbiaceae	Leaf juice	[41]
82.	<i>Durio Zibethinus</i> Murr.	Durian Fruit	Bombacaceae	Fresh fruit	[25,51]
83.	<i>Echinacea purpurea</i> L.	Indian head, comb flower	Compositae	Leaves	[52]
84.	<i>Ekerbegia capensis</i> Sparrm.	Isongoroit	Meliaceae	Root	[29]
85.	<i>Embllica officinalis</i> Gaertn.	Emblic	Euphorbiaceae	Fruit	[53-54]
86.	<i>Eriodendron Anfractuosum</i> DC.	White silk cotton tree	Bombaceae	Whole plant	[46]
87.	<i>Euadenia eminens</i> Hook.f.	Dinsinkro	Capparidaceae	Root	[39]
88.	<i>Euphorbia hirta</i> L.	Dudhi	Euphorbiaceae	Leaves	[37]

89.	<i>Eurycoma longifolia</i> Jack	Tongkat Ali	Simarubaceae	Whole plant	[55-63]
90.	<i>Evolvulus alsinoides</i> L.	Shankhahuli	Convolvulaceae	Whole plant	[23]
91.	<i>Fadogia agrestis</i> Schweinf.Ex Heim	Black aphrodisiac	Rubiaceae	Stem	[64-65]
92.	<i>Ferula hermonis</i>	Shilsh-el-zallouh	Umbelliferae	Root	[66]
93.	<i>Ficus arnottiana</i> Miq.	Paras Pipal	Moraceae	Bark	[67]
94.	<i>Ficus racemosa</i> L.	Gular	Moraceae	Fruit	[11]
95.	<i>Ficus religiosa</i> Linn.	Peepal tree	Moraceae	Bark	[12]
96.	<i>Ficus retusa</i>	Chilkan	Moraceae	Latex	[68]
97.	<i>Ficus bengalensis</i> L.	Bor	Moraceae	Latex	[17]
98.	<i>Flueggea virosa</i> Roxb. ex Willd.	White-berry bush	Euphorbiaceae	Whole Plant	[48]
99.	<i>Garcinia afzelii</i> Engl	Bitter kola	Guttiferae	Bark	[37]
100.	<i>Garcinia kola</i> Heckel	Bitter kola	Guttiferae	Bark	[37]
101.	<i>Gmelina arborea</i> Roxb	Coomb teak	Verbenaceae	Fruit	[12]
102.	<i>Gossypium arboreum</i> Linn.	Kapas	Malvaceae	Bark, seeds, leaves, root	[23]
103.	<i>Grewia asiatica</i> L.	Phalsa	Tiliaceae	Fruit	[42]
104.	<i>Harissonia abyssinica</i> Oliv	Zigua	Simaroubaceae	Bark	[37]
105.	<i>Hibiscus rosa-sinensis</i>	China rose	Malvaceae	Leaf	[12]
106.	<i>Hibiscus lobatus</i> Murr.	Jungli Bhindi	Malvaceae	Whole Plant	[105]
107.	<i>Hibiscus sabdariffa</i> Linn.	Roselle	Malvaceae	Seed, leaf	[12]
108.	<i>Holostemma ada-kodien</i> Schult.	Holostemma	Asclepiadaceae	Root	[12]
109.	<i>Hygrophila auriculata</i> Schum.	Katathua	Acanthaceae	Seeds	[105]
110.	<i>Hygrophila schulli</i> (Ham.)	Marsh Barbel	Acanthaceae	Root, leaf, seed	[12]
111.	<i>Ipomoea mauritiana</i> Jacq.	Giant potato	Convolvulaceae	Root	[12]
112.	<i>Jatropha curcas</i> L.	Bakarandah	Euphorbiaceae	Seeds	[105]
113.	<i>Kaempferia parviflora</i>	Krachaidam	Zingiberaceae	Rhizomes	[69]
114.	<i>Lagenaria vulgaris</i> Ser.	Bottle gourd	Cucurbitaceae	Fruit	[12]
115.	<i>Landolphia dulcis</i>	Hama-fufu	Apocynaceae	Root, Bark	[39]

116.	<i>Linum usitatissimum</i> L.	Alsi	Linaceae	Seed	[11]
117.	<i>Litsea chinensis</i>	Medh	Lauraceae	Bark	[108]
118.	<i>Lycium barbarum</i>	Goji berry	Solanaceae	Polysaccharides	[108]
119.	<i>Mallotus philippensis</i> Lam.	Rohini	Euphorbiaceae	Glandular hair on frutome	[105]
120.	<i>Lepidium meyenii</i> Walp.	Maca	Brassicaceae	Root	[70-71]
121.	<i>Mangifera indica</i> L.	Mango	Anacardiaceae	Bark	[12]
122.	<i>Maranta arundinacea</i> Linn.	Arrowroot	Zingiberaceae	Rhizome	[12]
123.	<i>Massularia acuminata</i>	Chewing stick	Rubiaceae	Stem	[72]
124.	<i>Mezoneuron benthamianum</i>	Senegal	Caesalpiniaceae	Twig or Stem	[37]
125.	<i>Microdesmis keayana</i>	Senegal	Pandaceae	Roots	[107]
126.	<i>Mimosa pudica</i> L.	Thottasiniki	Mimosoideae	Aerial part	[73]
127.	<i>Mirabilis jalapa</i> L.	Four o' clock plant	Nyctaginaceae	Root	[54]
128.	<i>Momordica charantia</i> Descourt	Bitter Melon	Cucurbitaceae	Leaf	[74]
129.	<i>Mondia whitei</i> Linn.	White's ginger	Periplocaceae	Root	[75]
130.	<i>Montanoa tomentosa</i> Cerv.	Zoapatle	Asteraceae	Whole plant	[76]
131.	<i>Morinda lucida</i>	Brimstonetree	Rubiaceae	Leaves	[77]
132.	<i>Mucuna pruriens</i> Linn. DC.	Poonai kali	Fabaceae	Seed	[41]
133.	<i>Murdannia edulis</i> Stokes	Siyamusli	Commelinaceae	Dried root	[105]
134.	<i>Myristica fragrans</i> Houtt	Nutmeg	Myristicaceae	Seed	[12, 25]
135.	<i>Nerium indicum</i> Mill.	Kaner/Kanail	Apocynaceae	Roots	[41]
136.	<i>Ocimum gratissimum</i>	Vana Tulsi	Labiatae	Leaves	[12]
137.	<i>Orchis latifolia</i> Linn.	Munjaatka	Orchidaceae	Roots	[78]
138.	<i>Oxyantllus unilocularis</i> Hiern	Ghana akan	Rubiaceae	Fruit, leaf	[37]
139.	<i>Palisota hirusta</i> K. Schum.	Ghana	Commelinaceae	Leaf	[79]
140.	<i>Panax ginseng</i>	Ginseng	Araliaceae	Root	[80]
141.	<i>Passiflora incarnate</i> L.	Wild Passion Flower	Passifloraceae	Leaf	[81]
142.	<i>Papaver somniferum</i> L.	Poppy plant	Papaveraceae	Flower	[12]

143.	<i>Pausinystalia yohimbe</i> (K.Schum.)	Pierre Yohimbin	Rubiaceae	Bark	[82]
144.	<i>Pfaffia paniculata</i>	Suma	Papilionaceae	Root	[83]
145.	<i>Pedalium murex</i>	Burra Gokhru	Pedaliaceae	Whole plant	[84]
146.	<i>Phyllanthus emblica</i> L.	Aonla	Euphorbiaceae	Fruit	[105]
147.	<i>Piper guineense</i> Schumach.	West African Pepper	Piperaceae	Root	[39]
148.	<i>Piper officinarum</i> DC	Chavica officinarum	Piperaceae	Fruit	[12]
149.	<i>Piper betle</i> Linn.	Vettrilai	Piperaceae	Leaf	[73]
150.	<i>Polyalthia suaveolens</i> Engl.	Polyalthia	Annonaceae	Fruit, root, leaf	[85]
151.	<i>Polygonatum multiflorum</i> (L.) All	Solomon's Seal	Liliaceae	Root	[20]
152.	<i>Prunus amygdalus</i> batsch	Badama	Rosaceae	Kernel	[23]
153.	<i>Psoralea corylifolia</i> Linn.	Bavaci	Fabaceae	Fruit	[23]
154.	<i>Ptychopetalum olacoides</i>	Potency wood	Olacaceae	Bark & Root	[106]
155.	<i>Punica granatum</i> L.	Anar	Punicaceae	Fruit	[11]
156.	<i>Rauvolfia vomitoria</i>	Afzel. poison devil's pepper	Apocynaceae	Root	[86-87]
157.	<i>Rhododendron anthopogon</i> D. Don	Ballu	Ericaceae	Leaf, flower	[20]
158.	<i>Rhododendron lepidotum</i> Wall. ex D. Don	Snow Rose	Ericaceae	Leaf, flower	[20]
159.	<i>Ricinus communis</i> L.	Castor	Euphorbiaceae	Seed	[12]
160.	<i>Rosa damascene</i> Mill	Rose	Rosaceae	Petal	[88]
161.	<i>Saccharum spontaneum</i> Linn.	Kasa	Poaceae	Root stock	[14,28]
162.	<i>Santalum album</i> Linn.	Sandal wood	Santalaceae	Heart wood	[88]
163.	<i>Scindapsus officinalis</i> Schott.	Gajapipali	Arecaceae	Fruit	[14, 28]
164.	<i>Securidaca</i> <i>longepedunculata</i> Slash	Violet tree	Polygalaceae	Root bark	[25]
165.	<i>Sesamum indicum</i> Linn	Tilli / Til	Pedaliaceae	Seds	[41]
166.	<i>Shorea robusta</i> gearn	Sal, Kabba	Dipterocarpaceae	Bark, leaves, fruit	[23]
167.	<i>Sida cordifolia</i> Linn.	Countary-mallow	Malvaceae	Root, seed	[12]
168.	<i>Sida acuta</i> Burn.F.	Bala	Malvaceae	Whole plant	[11]
169.	<i>Sida rhombifolia</i>	Bagauli	Malvaceae	Root	[11]
170.	<i>Solanum americanum</i> Linn.	Makoi	Solanaceae	Whole plant	[105]
171.	<i>Solanum indicum</i> Linn.	Indian night Shade	Solanaceae	Root	[12]

172.	<i>Solanum melongena</i> Linn.	Brinjal	Solanaceae	Unripe fruit	[12]
173.	<i>Solanum nigrum</i> Linn.	Aguaragua	Solanaceae	Berries	[12]
174.	<i>Sphaeranthus africanus</i> Linn.	Botobotonisan	Asteraceae	Whole plant	[12]
175.	<i>Sphaeranthus indicus</i> Linn.	Mundi	Asteraceae	Seeds	[11]
176.	<i>Strychnos nux-vomica</i> Linn.	Strychnine tree	Loganiaceae	Seed	[89]
177.	<i>Syzygium aromaticum</i> (L.) Merrill & Perry	Clove	Myrtaceae	Dried flower bud	[90-91]
178.	<i>Tabernanthe iboga</i> (L.) Nutt.	Iboga	Apocynaceae	Root, bark, stem	[24, 92]
179.	<i>Tabernanthe manii</i> Baill.	Tabernanthe	Apocynaceae	Root	[24,92]
180.	<i>Tamarindus indica</i> L.	Tamarind	Fabaceae	Bark	[93]
181.	<i>Tamarix aphylla</i> (L.) Karst	Athel tamarisk	Tamaricaceae	Bark	[42]
182.	<i>Taxus baccata</i> Linn.	Birmi	Taxaceae	Leaf	[12,14]
183.	<i>Terminalia arjuna</i> Roxb.	Arjuna	Combretaceae	Bark	[12]
184.	<i>Tinospora cordifolia</i> (Willd) Miers Hk.	Tinospora	Menispermaceae	Whole plant	[12-13]
185.	<i>Tribulus terrestris</i> L.	Puncturevine	Zygophyllaceae	Fruit, seed	[94-97]
186.	<i>Tricholepis glaberrima</i>		Compositae	Aerial parts	[108]
187.	<i>Trichosanthes dioica</i> L.	Methi	Fabaceae	Seed	[12]
188.	<i>Trichopus zeylanicus</i>	Senna	Trichopodaceae	Leaves	[98]
189.	<i>Turraea heterophylla</i> Sm.	Ahunanyakwa	Meliaceae	Root, bark, Seed	[39]
190.	<i>Turnera Aphrodisiaca</i>	Damiana	Turneraceae	Areal part	[99]
191.	<i>Turnera diffusa</i>	Mexican damiana	Turneraceae	Leaf	[108]
192.	<i>Tynanthus panurensis</i> (Bur.) Sandw.	Clavo huasca	Bignoniaceae	Bark, wood	[100-101]
193.	<i>Vanda tessellata</i> (Roxb.) Hook. ex Don.	Rasna	Orchidaceae	Flower, Root	[102-103]
194.	<i>Valeriana jatamansi</i> Wall.	Jatamansi	Valerianaceae	Root	[104]
195.	<i>Vanda tessellata</i>		Orchidaceae	Flower	[108]
196.	<i>Withania somnifera</i> Linn.	Ashwagandha	Solanaceae	Leaf, Root	[12,41,42]
197.	<i>Wrightia tinctoria</i> (Roxb.) R.Br.	Ivory tree	Apocynaceae	Seed, Leaf, bark	[12]
198.	<i>Zingiber officinale</i> Roscoe	Gingembre	Zingeberaceae	Rhizome	[48]

2. Conclusion:

Most of the natural plants in this review are those with aphrodisiac potentials. In this review some medicinal plants are used in ayurvedic formulations as aphrodisiac potentials to enhance performance as well as to increase vigor and vitality. Herbals drugs have a potential to treat the various types of body ailments. The demand of herbal drugs is increasing day by day in developed as well as developing countries because they are safer and well tolerated as compared to those of allopathic drugs. The information is recorded in plant's scientific name, common name of plant, family, part used for the aphrodisiac activity & reference. Scientists from divergent fields are investigating new plants with an eye to their aphrodisiac usefulness. Further investigation on the plants can increase the isolation of the newer molecules which will be helpful for the treatment of Sexual dysfunction. These plants should be subjected to animal and human studies to determine their effectiveness.

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5. REFERENCES:

1. Ang HH, Chan KL, Gan EK, Yuen KH. Enhancement of sexual motivation in sexually naive male mice by *Eurycoma longifolia*. International Journal of Pharmacology 1997; 35:144-146.
2. Osen RC, Ashton AK. Prosexual drugs: empirical status of the new aphrodisiacs. Archives of Sexual Behavior 1993; 22(6): 521-543.
3. Evans WO. Chemical Aphrodisiacs. Psychopharmacology Bulletin 1996; 5(2):11.
4. Ontorsi F, Salonia A. A Dehaf Cestari; Guazzoni, Pharmacological management of erectile dysfunction. Br J Urol 2003; 8:211-216.
5. Habsigh B, Anastasiadis AG. Erectile dysfunction. Annu Rev Med 2003; 45:153-168.
6. Yakubu MT, Bilbis LS, Lawal M, Akanji MA. Effect of repeated administration of sildenafil citrate on selected enzyme activities of liver and kidney of male albino rats. Nigj pure and appl Sci 2003; 18:1395-4000.
7. Guay AT, Spark RF, Bansal S, Cunningham GR, Goodman NF, Nankin HR et al. American association of clinical endocrinologist, Medical guidelines for clinical practice for the evaluation and treatment of male sexual dysfunction, A couple's problem. Endocrinol pract 2003; 9(1):78-95.
8. Sharma JK, Varma RCM, Agarwal VD. Principles of Narayana and Vajikarna therapy in susruta samhita and its application in mental health. Sachitra Ayurveda 1990; 3:239-242.
9. Chew KK, Stuckey BGA, Thompson PL. Erectile dysfunction, sildenafil and cardiovascular risk. Med J Aust 2000; 172:270-283.
10. Riffin PD, InDiczfalusy E, Khanna J. Research in Human Reproduction Geneva. Editors World Health Organization, Switzerland, 1988.
11. Khan & Khan. Folk medicines for male sexual disorders. Indian J Traditional Knowledge 2005; 4 (3):317-324.
12. Joy PP, Thomas J, Mathew S, Skaria PB. Medicinal Plants, Kerala Agricultural University. Aromatic and Medicinal Plants Research Station, 1998.
13. Tomas J, Joy PP, Mathew S, Skaria BP, Duethi PP, Joseph TS. Agronomic Practices for Aromatic and Medicinal Plants Kerala Agricultural University and Directorate of Areca nut & Spices Development (Min. of Agri., Govt. of India). Calicut, Kerala, India, 2000.
14. Meena KA, Bansal P, Kumar S. Plants-herbal wealth as a potential source of ayurvedic drugs. Asian Journal of Traditional Medicines 2009; 4(4):152-170.
15. Misra M. Editorial, The key to medicinal plants research revolves around the detection, isolation, and characterization of antioxidants as therapeutic agents. Journal of Medicinal Plants Research 2009; 3(10):1.
16. Ahan S, Rasool S, Khan MA, Ahmad M, Zafar M, Abbasi AM. Antifertility effects of ethanolic seed extract of *Abrus precatorius* L. on sperm production and DNA integrity in adult male mice. J Med Plants Res 2009; 3(10):809-814.
17. Husain A, Virmani OP, Popli SP, Misra LN, Gupta MM, Srivastava GN et al. Dictionary of Indian Medicinal Plants, CIMAP. Lucknow, India, 1992, 546.
18. Ew TR, A biology of acacias. Oxford University Press, Melbourne, 1984, 193.
19. PC, Indigenous uses, population density and conservation of threatened medicinal plants in protected areas of the Indian Himalayas. Conservation Biology 2005; 19(2):368-378.

20. Kapoor LD, CRC Handbook of Med. Ayurvedic Plants. CRC Press, 1990, 18.
21. Willaman JJ, Li HL. Alkaloid bearing plants and their contained alkaloids. *J Nat Prod* 1970; Suppl 33(3A).
22. Ikarwar RLS, Pathak B, Jaiswal A. Some unique ethnomedicinal perceptions of tribal communities of Chitrakoot, Madhya Pradesh. *Indian Journal of Traditional Knowledge* 2008; 7(4):613-617.
23. Agrawal SS. Clinically useful herbal drugs. Published by Ahuja Publications, Delhi, 2005, 100-123.
24. Ousins D, Huffman MA. Medicinal properties in the diet of gorillas: an ethno-pharmacological evaluation. *African Study Monographs* 2002; 23(2):65-89.
25. Umalatha K, Kumar SA, Lakshmi SM. Review on Natural Aphrodisiac potentials to treat Sexual dysfunction. *International Journal of Pharmacy & Therapeutics* 2010; 1:10-18.
26. Kojima A, Nagato Y, Hinata K. Degree of Apomixis in Chinese Chive (*Allium tuberosum*) estimated by Esterase isozyme analysis. *Japan J Breed* 1991; 41: 73-83.
27. Houdhary R. Beneficial effect of *Allium sativum* and *Allium tuberosum* on experimental Hyperlipidemia and Atherosclerosis. *Pak J Physiol* 2008; 4(2):7-9.
28. Hopra RN, Nayar SL, Chopra IC. Glossary of Indian medicinal plants, NISCIR, CSIR, Delhi, 2002.
29. Gundidza GM, Mmbengwa VM, Magwa ML, Ramalivhana NJ, Mukwevho NT, Ndardzzi W et al. Aphrodisiac properties of some Zimbabwean medicinal plants formulations. *African Journal of Biotechnology* 2009; 8(22):6402-6407.
30. Anand RM, Nandakumar N, Karunakaran L, Ragunathan M, Murugan V. A Survey of medicinal plants in Kollimalai hill tracts, Tamil Nadu. *Natural Products Radiance* 2006; 5(2):139-143.
31. Sharma V, Thakur M, Chauhan NS, Dixit VK. Evaluation of the Anabolic, Aphrodisiac and Reproductive Activity of *Anacyclus Pyrethrum* DC in Male rats. *Scientia pharmaceutica* 2009; 77:97-110.
32. Satyavati GV, Raina MK, Sharma M. Medicinal Plants of India. Ind Council on Med Res 1976; 1.
33. Dange PS, Kanitkar UK, Pendse GS. Amylase and lipase activities in the roots of *A. racemosus*. *Planta Medica* 1969; 17:393.
34. Subramoniam A, Madhavachandran V, Ravu K, Anuja VS. Aphrodisiac property of elephant creeper *Argyreia nervosa*. *Journal of Endocrinology & Reproduction* 2007; 11(2):82-85
35. Pandey M, Pathak A. Investigation of Aphrodisiac potentials of *Blepharis edulis* Linn. Claimed by tribals of malwa region of Madhya Pradesh. International Journal of Pharma Tech Research 2009; 1(3):769-776.
36. Ching LYA, Wah ST, Sukari AM, Lian CEG, Rahmani M, Khalid K. Characterization of flavonoid derivatives from *Boesenbergia rotunda* (L.). *The Malaysian Journal of Analytical Sciences* 2007; 11(1):154-159.
37. Sugiyama Y, Koman J. The Flora of Bossou: its utilization by Chimpanzees and Humans. *African Study Monographs* 1992; 13(3):127 -169.
38. Abraham GG. The hemp plant in Sanskrit and Hindi literature. *The Indian Antiquary* 1894; 23:260-262.
39. Agbovie T, Ampsonah K, Crentsil OR, Dennis F, Odamten GT, Djan WO. Conservation and Sustainable Use of Medicinal Plants in Ghana Ethnobotanical Survey, 2002.
40. Elferink RGJ. Aphrodisiac Use in Pre-Columbian Aztec and Inca Cultures. *Journal of the History of Sexuality* 2000; 9(1/2):25-36.
41. Singh KP, Kumar V, Tiwari KR, Sharma A, Rao CV, Singh RH. Medico-Ethnobotany of 'Chatara' Block of District Sonebhadra, Uttar Pradesh, India. *Advances in Biological Research* 2010; 4(1):65-80.
42. Aiswal S, Singh SV, Singh B, Singh HN. Plants used for tissue healing of animals. *Natural Products Radiance* 2004; 3(4):284-292.
43. Burkhill HM. The useful plants of West Tropical Africa, Families A-D. Royal Botanic Gardens, Kew, United Kingdom, 1985, 2(1):1960.
44. Vanwyk BE, Gericke N. People's plants: a guide to useful plants of southern Africa, Briza Publications, Pretoria, South Africa, 2000, 351.
45. Maiti S, Geetha KA. Horticulture Floriculture (Ornamental, Medicinal & Aromatic Crops) Medicinal and Aromatic Plants in India, 2007.
46. Prasanth PR, Kumar A. Ethno-medico botany of medicinal plants for the treatment of diabetic activity in Krishna district, Andhra Pradesh. *International Journal of Pharma Research and Development - Online* 2008; 9:1-9.
47. Dahanukar SA, Thatte UM. Therapeutic approaches in Ayurveda Revisited. Poppular Prakashan, Mumbai, 1989, 109-110.
48. Mugisha MK, Origa HO. Traditional herbal remedies used in the management of sexual impotence and erectile dysfunction in western Uganda. *African Health Sciences* 2005; 5(1):40-49.
49. Thakur M, Dixit VK. Aphrodisiac Activity of *Dactylorhiza hatagirea* (D. Don) Soo in Male Albino Rats, Evid Based Complement Alternat Med 2007; 4(1):29-31.
50. Woys WW. Heirloom Vegetable Gardening. Henry Holt and Company, New York, 1997.
51. Weenen H, Koolhaas EW, Apriyantono A. Sulfur-Containing Volatiles of Durian Fruits (*Durio*

- zibethinus* Murr.). J Agric Food Chem 1996; 44(10): 3291-3293.
52. Aughlin MG. Medicinal Plant review. J Med Herbalism 1992; 4(4).
 53. Cynthia W. Love Potions - a guide to aphrodisiacs. Optima Books, 1993.
 54. Ahmad SS. Medicinal wild plants from Lahore-Islamabad motorway (m-2). Pak J Bot 2007; 39(2): 355-375.
 55. Ng HH, Lee KL, Kiyoshi M. Sexual arousal in sexually sluggish old male rats after oral administration of *Eurycoma longifolia* Jack. J Basic Clin Physiol Pharmacol 2004; 15(3-4):303-309.
 56. Ang HH, Ngai TH, Tan TH. Effects of *Eurycoma longifolia* Jack on sexual qualities in middle aged male rats. Phytomedicine 2003; 10(6-7):590-593.
 57. Ang HH, Cheang HS. Effects of *Eurycoma longifolia* jack on muscle in both uncastrated and testosterone-stimulated castrated intact male rats. Arch Pharm Res 2001; 24(5):437-440.
 58. Ng HH, Ngai TH. Aphrodisiac evaluation in noncopulator male rats after chronic administration of *Eurycoma longifolia* Jack. Fundam Clin Pharmacol 2001; 15(4):265-268.
 59. Ng HH, Ikeda S, Gan EK. Evaluation of the potency activity of aphrodisiac in *Eurycoma longifolia* Jack. Phytother Res 2001; 15(5):435- 436.
 60. Ang HH, Cheang HS, Yusof AP. Effects of *Eurycoma longifolia* Jack (Tongkat Ali) on the initiation of sexual performance of inexperienced castrated male rats. Exp Anim 2000; 49(1):35-38.
 61. Ang HH, Sim MK. *Eurycoma longifolia* increases sexual motivation in sexually naive male Rats. Arch Pharm Res 1998; 21(6):779-781.
 62. Ng HH, Sim MK. *Eurycoma longifolia* Jack and orientation activities in sexually experienced male rats. Biol Pharm Bull 1998; 21(2):153-155.
 63. Ang HH, Chan KL, Gan EK, Yuen KH. Enhancement of Sexual Motivation in Sexually Naive Male Mice by *Eurycoma longifolia*. Pharmaceutical Biology 1997; 35(2):144-146.
 64. Akubu MT, Adewumi MA, Oladiji TA. Alterations in serum lipid profile of male rats by oral administration of Aqueous extracts of *Fadogia agrestis*. Research Journal of Medicinal Plants 2008; 2(2):66-73.
 65. Yakubu MT, Akanji MA, Oladiji AT. Aphrodisiac potentials of the aqueous extract of *Fadogia agrestis* (Schweinf. Ex Heirn) stem in male albino rats. Asian Journal of Andrology 2005; 7(4):399-404.
 66. Hadidi KA, Aburajai T, Battah AK. A Comparative study of *Ferula hermonis* root extract and sildenafil on copulatory behavior of male rats. Fitoterapia 2003; 74:242-246.
 67. Bakshi DNG, Sharma PS, Pal DC. A Lexicon of Indian Medicinal Plants. Vol. 2, Naya prakashan, New Delhi, 2001, 190.
 68. Swapnaadeep Parial, Jain DC, Joshi SB. Antidiabetic activity of *Ficus retusa* leaves Drug Invention today. 2010, 2(1):96-101.
 69. Chaturapanich G, Chaiyakul S, Verawatnapakul V. Pholpramool, Effect of *Kaempferia parviflora* extract on reproductive parameters and spermatic blood flow in male rats. Reproduction research 2008; 136:515-522.
 70. Gonzales GF, Gasco M, Cordova A, Chung A, Rubio J, Villegas L. Effect of *Lepidium meyenii* (Maca) on spermatogenesis in male rats acutely exposed to high altitude (4340 m). Journal of Endocrinology 2004; 180:87-95.
 71. Onzales GF, Cordova A, Vega K, Chung A, Villena A, Gómez C. Effect of *Lepidium meyenii* (Maca), a root with aphrodisiac and fertility-enhancing properties, on serum reproductive hormone levels in adult healthy men. Journal of Endocrinology 2003; 176: 163-168.
 72. Yakabu MT, Adewumi MA, Akanji AT, Oladiji. Androgenic potentials of aq. extract of *Massularia acuminate* (G.Don) Bullock ex Hoyl. stem in male wistar rats. Journal of ethanopharmacology 2008; 118:508-513.
 73. Ankaranarayanan S, Bama P, Ramachandran J, Kalaichelvan TP, Deccaraman M, Vijayalakshmi M et al. Ethnobotanical study of medicinal plants used by traditional users in Villupuram district of Tamil Nadu, India. Journal of Medicinal Plants Research 2010; 4(12):1089-1101.
 74. Sharma VN. Some observations on hypoglycaemic activity of *Momordica charantia*. Indian J Med Res 1960; 48(4):471-47.
 75. Watcho P, Fotsing D, Zelefack F, Nguelefack TB, Kamtchouing P, Tsamo E et al. Effects of *Mondia whitei* extracts on the contractile responses of isolated Rat vas deferens to the potassium chloride and adrenaline. Indian J Pharmacol 2006; 38(1):33-37.
 76. Zepeda RER, Gloria LE, Lopez GM, Villarreal LM, Chávez RE, Torres MJ. *Montanoa tomentosa* glandular trichomes containing kaurenoic acids chemical profile and distribution. Fitoterapia 2009; 80:12-17.
 77. Yinusa R, Olumide S, Toyin MA, Salman. Antispermatogenic activity of *Morinda lucida* extract in male rats. Asian J Androl 2005; 7(4):405-410.
 78. Thakur M, Dixit VK. Ameliorative Effect of Fructo-Oligosaccharide Rich Extract of *Orchis latifolia* Linn. On Sexual Dysfunction in Hyperglycemic Male Rats. Sex Disabil 2008; 26:37-46.

79. Benson BB, Berko AY, Berko MAJ, Coulibaly KW, Ehile EE. Assessment of Sexual Stimulant Potential of Total Flavonoids Extracted from Leaves of *Palisota Hirsuta* Thunb. K. Schum (Commelinaceae). European Journal of Scientific Research 2008; 22(4):533-538.
80. Izzo, Angelo A, Amato M. Review-The Aphrodisiac and adaptogenic properties of ginseng. Fitoterapia 2000; 71:S1-S5.
81. Gilman FE. *Passiflora incarnata* -- Wild Passion Flower, Series of the Environmental Horticulture Department, Florida Cooperative Extension Service. Institute of Food and Agricultural Sciences, University of Florida, Fact Sheet FPS-457, 1999, 1-3.
82. Abricant SD, Farnsworth RN. The Value of Plants Used in Traditional Medicine for Drug Discovery. Environmental Health Perspectives 2001; 109(1): 69-75.
83. Arletti R, Benelli A, Cavazzuti E, Scarpetta G, Bertolini A. Stimulating property of *Turnera diffusa* and *Pfaffia paniculata* extracts on the sexual-behavior of male rats. Psychopharmacology (Berl) Mar 1999; 143(1):15-19.
84. Alamurugan G, Muralidharan P, Polapala S. Aphrodisiac activity and curative effect of *Pedalium murex* (L.) against ethanol-induced infertility in male rats. Turk J Biology 2010; 34:153-163.
85. Bouquet A, Cave A, Paris R. Plantes medicinales du Congo-Brazzaville (III) Medicinal Properties in the Diet of Gorillas 75 plantes medicinales et phytotherapie. Tome 1971; 2:154-158.
86. Ogunlesi M, Okiei W, Ofor E, Awonuga O. Determination of the Concentrations of Zinc and Vitamin C in Oysters and Some Medicinal Plants used to Correct Male Factor Infertility. Journal of Natural Products 2009; 2:89-97.
87. Principe P. The economic significance of plants and their constituents as drugs In: Wagner H, Hikino H, Farnsworth NR, (Eds.), Economic and Medicinal Research, Vol. 3, Academic Press, London, 1989, 1-17.
88. Garg SC. Essential oils as Therapeutics. Natural Product Radiance 2005; 4(1):18-26.
89. Meena KA, Yadav KA, Panda P, Preet K, Rao MM. Review on *Stereospermum suaveolens* DC: A Potential Herb. Drug Invention Today 2010; 2(5):238-239.
90. Khan MA, Akseer-e-Azam. Kanpur, India, Matba Nizami 1886; 3:563.
91. Baytar I, Kitabul Jame' Li-Mufradat il Advia wal aghzia, Cairo, Egypt, Matba Zahiyah Zaaherah Mutawfferah, 1869; 5:7-9.
92. Dubois L, Baillon TI. Bulliten Agricole du Congo Belguim. 1955; XLVI(4):805-829.
93. Ain LD, Baheti MA, Jain RS, Khandelwal RK. Use of medicinal plants among tribes in Satpuda region of Dhule and Jalgaon districts of Maharashtra-An Ethanobotanical survey. Indian Journal of Traditional Knowledge 2010; 9(1):152-157.
94. Ingh KP, Singh PA, Gupta KA, Chaudhary S. Beneficial effects of aqueous fruit extract of *Tribulus terrestris* on testicular and serum biochemistry of albino rats. J Ecophysiol Occup Hlth 2009; 9:217-223.
95. Saudan C, Baume N, Emery C, Strahm E, Saugy M. Short term impact of *Tribulus terrestris* intake on doping control analysis of endogenous steroids. Forensic Science International 2008; 178(1):e7-e10.
96. Gauthaman K, Adaikan PG, Prasad RN. Aphrodisiac properties of *Tribulus terrestris* extract (protodioscin) in normal and castrated rats. Life Sci 2002; 71:1385-1396.
97. Neychev VK, Mitev VI. The aphrodisiac herb *Tribulus terrestris* does not influence the androgen production in young men. J Ethnopharmacol 2005; 101:319-323.
98. Ubramoniam A, Madhavachandran V, Rajasekharan S, Pushpangadan P. Aphrodisiac property of *Trichopus zeylanicus* extract in male mice. J of Ethanopharmacology 1997; 57(1):21-27.
99. Suresh Kumar, Reecha Madaan, Anupam Sharma. Evaluation of Aphrodisiac activity of *Turnera aphrodisiaca*. International Journal of Pharmacognosy and Phytochemical Research 2009; 1(1):1-4.
100. Duke JA, Rodolfo V. Amazonian Ethnobotanical Dictionary. CRC Press, 1994.
101. Ylor NDL. The Healing Power of Rainforest Herbs. Square One Publishers, 2005.
102. Jain BJ, Kumane CS, Bhattacharya S. Medicinal flora of Madhya Pradesh and Chattisgarh-A review. Indian Journal of Traditional Knowledge 2006; 5(2): 237-242.
103. Mar SKP, Subramoniam A, Pushpangadan P. Aphrodisiac activity of *Vanda tessellata* (roxb.) hook. Ex don extract in male mice. Indian Journal of Pharmacology 200; 32:300-304.
104. Aiti S. Breakthrough and research highlights, National research centre for medicinal and aromatic plants. Newsletter 2008; 9(2):4-5.
105. Alviya N, Jain S, Gupta VB, Vyas S. Indigenous Herbal remedies used by tribals of Madhya Pradesh for Improving their Sexual Performance and Problem associated with Sexuality.
106. RAP. 2011, 2(2):399-402.
107. Aini NK, Singhal M, Srivastava, Sharma S. Natural Plants effective in treatment of sexual

- dysfunction: A Review. The Pharma Research, A Journal 2010; 4(2):206-224.
108. Amble A, Sahpaz S, Brunet C, Bailleul F. Effect of *Microdesmis keayana* roots on sexual behavior of male rats. Phytomed 2008; 15:111-116.
109. Atel DK, Kumar R, Prasad SK, Hemalatha S. Pharmacological screened aphrodisiac Plant – A review of Current scientific literature. Asian pacific journal of tropical biomedicine 2011; S131-S138.