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Suvigya Gautam
Department of Horticulture, Floriculture and Landscaping, Research Scholar College of Horticulture & Research Station, Sankara, MGUVV, Durg, Chhattisgarh, India

Dr. Rajeshwari Sahu
Assistant Professor Mahatma Gandhi University of Horticulture and Forestry, Durg, Chhattisgarh, India

Dr. Toran Lal Sahu
Head of Department, (Floriculture and landscaping) MGUVV, Durg, Chhattisgarh, India

Dr. Neetu Harmukh
Scientist, Chhattisgarh State Biodiversity Board, Aranya Bhawan, Raipur, Chhattisgarh, India

Neelima Khunte
Research Scholar College of Horticulture & Research Station Sankara, MGUVV, Durg, Chhattisgarh, India

Corresponding Author:
Suvigya Gautam
Department of Horticulture, Floriculture and Landscaping, Research Scholar College of Horticulture & Research Station, Sankara, MGUVV, Durg, Chhattisgarh, India

Ethnomedicinal uses of orchids and the conservation concerns of their threatened species: A review

Suvigya Gautam, Rajeshwari Sahu, Toran Lal Sahu, Neetu Harmukh and Neelima Khunte

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Abstract
This review explores the ethnomedicinal uses of orchids and the conservation challenges facing their threatened species. Orchids (family Orchidaceae) are among the most diverse plant families, with significant cultural and medicinal importance across various traditional medicine systems, including Ayurveda and Traditional Chinese Medicine. Orchids like *Dendrobium nobile* and *Vanda tessellata* are traditionally used for treating respiratory disorders, skin diseases, and reproductive health issues. However, habitat loss, overharvesting, and climate change threaten many orchid species, especially in India. Conservation concerns include deforestation, unsustainable harvesting, and weak enforcement of legal protections. This paper highlights the need for sustainable harvesting practices and conservation efforts to protect both biodiversity and traditional knowledge.

Keywords: Biodiversity, conservation, ethnomedicinal uses, orchids, sustainable harvesting, threatened species, traditional medicine

Introduction
Orchids are one of the most fascinating and diverse groups of flowering plants in the world. Belonging to the family Orchidaceae, they represent one of the largest families in the plant kingdom, comprising approximately 29,000 accepted species across more than 800 genera. This family accounts for about 8-10% of all flowering plants. Orchids are distributed globally, with major diversity in tropical Asia, South America, and parts of Africa, thriving in ecosystems ranging from humid rainforests to alpine regions.
The name "orchid" is derived from the Greek word *"orchis"*, meaning testicle, due to the shape of the root tubers in some species. This resemblance led ancient Greek herbalists to believe orchids possessed aphrodisiac properties. This belief became one of the earliest recorded instances of orchids being used in traditional medicine.

Ethnomedicinal Uses of Orchids
Across the world, orchids have been used in traditional medicine systems such as Ayurveda, Traditional Chinese Medicine (TCM), and various tribal healing practices. In TCM, Dendrobium species are used to treat dry mouth, fever, and stomach ailments. In Ayurveda, species like *Vanda tessellata* are applied in treating inflammation, fever, and nervous disorders [1, 2].
India is rich in orchid diversity, particularly in the Eastern Himalayas, Western Ghats, and the Northeastern states. Indigenous tribes such as the Khasi, Garo, and Apatani use orchids in ethnomedicine [9]. For example:

- ***Dendrobium nobile***: Used for boosting immunity, treating respiratory issues, and as a general tonic [1].
- ***Vanda roxburghii***: Applied externally for rheumatism and nervous system disorders [15].
- ***Habenaria edgeworthii***: Used to improve sexual health and vitality [12].

Common Ailments Treated with Orchids: Orchid-based remedies are employed to address various ailments [2, 7]

- **Respiratory disorders:** Tuberculosis, asthma, and bronchitis.
- **Digestive problems:** Stomach pain, indigestion, and diarrhea.

- **Reproductive health:** Aphrodisiac use, menstrual problems, and fertility enhancement.
- **Skin and wound care:** Burns, cuts, and skin infections.
- **General health tonics:** Immunity boosters and rejuvenators

Conservation concerns

- **Habitat Loss and Degradation:** Deforestation, urbanization, and agricultural expansion have led to significant habitat loss for orchids. Many species are epiphytes, relying on forest canopies for survival, which makes them highly susceptible to environmental changes [3, 4].
- **Overharvesting for Trade:** The demand for orchids in the medicinal and ornamental markets has led to overharvesting. In the absence of sustainable harvesting practices, wild populations have sharply declined.
- **Climate Change:** Changing temperature and rainfall patterns have disrupted the delicate ecological balance required for orchid germination and survival. This is particularly critical for species that depend on specific mycorrhizal fungi.
- **Legal and Policy Gaps:** Although orchids are protected under CITES (Convention on International Trade in Endangered Species), enforcement at the local level is often weak. Many local communities are unaware of conservation laws or lack alternative livelihoods, leading to continued exploitation.

Threatened orchid species with ethnomedicinal value

Many orchid species valued for their ethnomedicinal properties are currently facing significant threats due to habitat destruction, overharvesting, and environmental changes. Species such as *Dendrobium nobile*, widely used in traditional Chinese and Ayurvedic medicine for its immune-boosting and neuroprotective effects, are categorized as vulnerable due to excessive collection from the wild. Similarly, *Vanda coerulea*, known for treating skin and nervous disorders, is endangered because of habitat loss and overexploitation for both medicinal use and ornamental trade. The critically endangered *Paphiopedilum druryi*, native to India's Western Ghats, is prized for its rarity and medicinal potential but is at risk due to illegal collection and deforestation. *Cypripedium cordigerum* also faces threats from habitat degradation and overharvesting, despite its use in traditional remedies for pain and inflammation. The decline of these orchids not only threatens biodiver sity but also endangers the traditional knowledge systems that rely on them, emphasizing the urgent need for conservation efforts to protect both the species and the cultural heritage they represent. Approximately 250 species of orchids in India are under various threat categories. The loss of these species would also mean the loss of invaluable medicinal resources and genetic diversity.

Several orchid species used in traditional medicine are currently facing serious threats to their survival due to overharvesting, habitat loss, and environmental changes. These include:

Table 1: Threatened Species of Orchid in India

S. No.	Species Name	Habit	Threat Status
1	*Acampe congesta*	Epiphyte	Endangered
2	*Achroanthes punctata*	Epiphyte	Endangered
3	*Acanthephippium sylhetense*	Terrestrial	Endangered
4	*Anoectochilus clarkei*	Terrestrial	Endangered
5	*Anoectochilus panthlingii*	Terrestrial	Endangered
6	*Anoectochilus tetraplerus*	Epiphyte	Endangered
7	*Bulbophyllum aureum*	Epiphyte	Endangered
8	*Bulbophyllum fuscopurpureum*	Epiphyte	Endangered
9	*Bulbophyllum mysorensis*	Epiphyte	Endangered
10	*Bulbophyllum nodosum*	Epiphyte	Endangered
11	*Bulbophyllum piluliferum*	Epiphyte	Endangered
12	*Bulbophyllum protractum*	Epiphyte	Rare
13	*Bulbophyllum thomsonii*	Epiphyte	Critical
14	*Bulleya yunnanensis*	Epiphyte	Rare
15	*Coelogyne glandulosa*	Epiphyte	Endangered
16	*Cymbidium aloifolium*	Epiphyte	Endangered
17	*Cymbidium eburneum*	Epiphyte	Endangered
18	*Cymbidium devonianum*	Epiphyte	Endangered
19	*Cymbidium gammieanum*	Epiphyte	Endangered
20	*Cymbidum tigrinum*	Epiphyte	Endangered
21	*Dendrobium chrysotoxum*	Epiphyte	Endangered
22	*Dendrobium bensoniae*	Epiphyte	Endagered
23	*Dendrobium densiflorum*	Epiphyte	Endangered
24	*Dendrobium draconis*	Epiphyte	Endangered
25	*Dendrobium falconeri*	Epiphyte	Endangered
26	*Dendrobium tenuicaule*	Epiphyte	Endangered
27	*Epigeneium rotundatum*	Epiphyte	Vulnerable
28	*Eria fragrans*	Epiphyte	Rare
29	*Eulophia cullenii*	Terrestrial	Endangered
30	*Goodyera secundifolia*	Terrestrial	Endangered
31	*Habenaria andamanica*	Terrestrial	Rare
32	*Habenaria caranjesis*	Terrestrial	Critical
33	*Habenaria cumminsiana*	Terrestrial	Endangered
34	*Habenaria flabelliformis*	Terrestrial	Endangered
35	*Habenaria richardiana*	Terrestrial	Vulnerable
36	*Malaxis andamanica*	Terrestrial	Endangered
37	*Malaxis richardiana*	Terrestrial	Endangered
38	*Malaxis andamanica*	Epiphyte	Rare
39	*Malaxis crenulate*	Terrestrial	Endangered
40	*Phalaenopsis speciosa*	Epiphyte	Rare
41	*Paphiopedihlm druryi*	Terrestrial	Rare
42	*Phaius lurius*	Terrestrial	Vulnerable
43	*P. fairreanum*	Terrestrial	Endangered
44	*P. vensutum,*	Terrestrial	Endangered
45	*Paphiopedilum insigne*	Terrestrial	Endangered
46	*P. villosum*	Terrestrial	Endangered
47	*Renanthera imschootiana*	Epiphyte	Endangered
48	*Taeniophyllum andamanicum*	Epiphyte	Rare
49	*Taeniophyllum scaberulum*	Epiphyte	Vulnerable
50	*V. coerulea*	Epiphyte	Endangered
51	*Vanda pumila*	Epiphyte	Endangered
52	*Vanilla pilifera*	Epiphyte	Vulnerable
53	*Vanilla wightiana*	Epiphyte	Vulnerable
54	*Zeuxine andamanica*	Terrestrial	Rare

Ethnomedicinal Uses of Orchids

Orchids, beyond their ornamental appeal, hold significant value in traditional medicine across many cultures, particularly in Asia. Numerous species from the Orchidaceae family have been used by indigenous communities to treat ailments such as wounds, respiratory issues, digestive disorders, and reproductive problems. Medicinally important orchids like *Dendrobium nobile*, *Anoectochilus roxburghii*, *Bletilla striata*, and *Vanda tessellata* are commonly used in Ayurvedic, Traditional Chinese Medicine (TCM), and folk healing systems. Plant parts including roots, leaves, pseudobulbs, and flowers are prepared as decoctions, pastes, or powders for internal or topical use. These orchids contain bioactive compounds such as alkaloids, flavonoids, glycosides, and phenanthrenes, which contribute to their therapeutic effects. While their ethnomedicinal role is well-recognized, overharvesting and habitat loss threaten many of these species, making sustainable use and conservation efforts essential. The details are available in table:

Table 2: Ethnomedicinal uses of Orchid Family

S. No	Species	Origin	Habit	Part(s) used	Ethnomedicinal uses
1.	*Acampe carinata* (Griff.)	India	Epiphyte	Roots	Snake bites, stomach disorder, scorpio and acidity.
2.	*Acampe praemorsa* (Roxb.) Blatt. & McCann	India	Epiphytic	Roots, leaves	Rheumatism, sciatica, neuralgia, asthma, bronchitis, eye diseases, syphilis, uterine diseases.
3.	*Acampe papillosa* (Lindl.) Lindl	India	Epiphyte	Roots, Leaves	Rheumatism, Sciatica, Syphilis.
4.	*Aerides multiflora* Roxb.	India	Epiphyte	Leaves Stem/pseudoblb, flowers/fruits/ seeds	Used as tonic. For treating cuts and wounds. Fruit is used for healing wounds.
5.	*Aerides odorata* Lour.	India	Epiphytic	Root, Leaves	Used for curing joint pain and swelling. Treat wounds and cuts, ear ache. Used to treat control tuberculosis.
6.	*Anoectochilus setaceus* Lindl.	India	Epiphyte	Leaves	Used for snake bite and used as ingredient in some medicinal oils.
7.	*Arundina graminifolia* (D.Don) Hochr.	India	Epiphyte	Root, stem/ pseudobulb	In diabetes, tumor, hyper-lipids, hepatitis and antibacterial activity.
8.	*Brachycorythis obcordata* (Lindl. ex Wall.) Summerh	India	Terrestrial	Root	Used as tonic after mixing with milk
9.	*Bulbophyllum careyanum* (Hook.) Spreng	India	Epiphyte	Leaves, stem/ pseudobulb	When mixed with honey, used in abortion in early months. In burns, wounds and recovery in case of child birth
10.	*Bulbophyllum cariniflorum* Rchb.f.	India	Epiphyte	Root	Leukoderma
11.	*Bulbophyllm leopardinum*	India	Epiphytic	Stem/pseudobulb, whole plant	Used in burns
12.	*Bulbophyllm odoratissimum*	India	Epiphyte	Whole plant, stem/ pseudobulb	Treat tuberculosis, fracture and chronic inflammation
13.	*Bulbophyllm umbellatum*	India	Epiphyte	Whole Plant	Used in congenital diseases
14.	*Calanthe plantaginea* K.Y.Lang & Z.H.Tsi	India	Terrestrial	Root	As aphrodisiac.
15.	*Calanthe triplicate* (Willemet) Ames	India	Terrestrial	Whole plant	Used for diarrhea, treat swollen hand and tooth cavities with other ingredients and masticatory for gastrointestinal disorders. Used as a pain killer in caries.
16.	*Calanthe sylvatica* (Thouars) Lindl.	India	Epiphyte	Flower/Fruits/seeds	In nasal bleeding
17.	*Calanthe tricarinata* Lindl.	India	Terrestrial	Stem/Pseudobulb	Used as aphrodisiac
18.	*Coelogyne fimbriata* Lindl.	India	Epiphyte	Leaves	Used in tonic preparation and aphrodisiac
19.	*Coelogyne nervosa* A.Rich.	India	Terrestrial	Leaves	Used as antibacterial activity
20.	*Corymborkis veratrifolia* (Reinw.)	India	Epiphytic	Leaves	Used as an emetic, pyrexia in children.
21.	*Coelogyne corymbose* Lindl.	India	Epiphyte	Stem/Pseudobulb	Used for relief from headache and juice used for burns.
22.	*Conchidium muscicola* (Lindl.) Rauschert	India	Terrestrial	Wholr plant	In cardiac, respiratory and nervous disorder.
23.	*Cremastra appendiculata* (D.Don)	India	Terrestrial	Bulbs	It Is associated with the Spleen, liver, and stomach meridians. Used internally, to fight tumors and cancers of the breast, cervix and uterus. Externally, it treats boils and skin lesions
24.	*Crepidium acuminatum* (D.Don) Szlach.	India	Epiphyte	Root	In burns.
25.	*Cymbidium goeringii* (Rchb.f.)	India	Epiphyte	Whole Plant	Used as diuretic, and hypotensive, activities.
26.	*Cymbidium aloifolium* (L.) Sw.	India	Epiphyte	Root	In cancer, nervous diseases. As anti-emetic, in vertigo, diarrhea, weakness of eyes and treatment paralysis.

27.	*Cymbidium hookerianum* Rchb.f.	India	Epiphyte	Flowers/Fruits/seeds	In injuries as hemostatic
28.	*Cymbidium elegans* Lindl.	India	Epiphytic	Root, Leaves	Used as coagulant
29.	*Cymbidium elegans* Reichb.f	India	Epiphyte	Root	Terrestrial nervine tonic in hysteria, madness, spasm, epilepsy and rheumatism
30.	*Cymbidium iriodes*	India	Epiphyte	Root, Leaves	Used to enhances coagulation Used as coagulant. As a tonic
31.	*Cypripedium cordigerum* D.Don	India	Terrestrial	Root	As a tonic
32.	*Cymbidium devonianum* Paxton	India	Epiphyte	Whole Plant	Used to treat cough and cold
33.	*Cypripedium himalaicum* Rolfe	India	Terrestrial	Whole plant	As a diuretic, in heart disease, cough and chest problems.
34.	*Dendrobium hatagirea*	India	Epiphytic	Root, Flower	Used as anti-Inflammatory activity, antipyretic activity and sedative and hypnotics activity
35.	*Dendrobium crepidatum* Lindl.	India	Epiphyte	Stem/Pseudobulb	In fractures
36.	*Dendrobium eriifolium* Griff.	India	Epiphyte	Stem/Pseudobulb	For treating fractured and dislocated bones
37.	*Dendrobium heterocarpum* Lindl.	India	Epiphytic	Stem/Pseudobulb	In dislocated bones
38.	*Dendrobium moschatum* (Banks) Sw.	India	Epiphyte	Stem/Pseudobulb	Used to treat fractured and dislocated bone
39.	*Dendrobium jenkinsii* Wall. ex Lindl.	India	Epiphyte	Stem/Pseudobulb	Used in preparation of Chinese drug Shih-hu, Used for dehydration in fever and eyes.
40.	*Dendrobium transparens* Wall. ex Lindl.	India	Epiphyte	Stem/Pseudobulb	Used for bone setting
41.	*Dendrobium macraei* Lindl.	India	Epiphyte	Whole Plant	Used for snake bite, asthma, bronchitis, throat trouble, and fever. Also used as an aphrodiasic
42.	*Dienia cylindrostycha* Lindl.	India	Epiphyte	Root, Stem/Pseudobulb	Used as tonic. Decoction of tuber used to strengthen kidneys
43.	*D. monticola* P.F. Hunt & Summerh.	India	Epiphyte	Whole plant	Used in skin eruptions.
44.	*Echioglossum williamsoni*	India	Terrestrial	Leaves	Leaf juice applied to cure swellings of legs, hands, and for bone fractures.
45.	*Eria bamboosifolia*	India	Epiphyte	Whole plant	In combination with Aegle mermaelos, to treat acid peptic disease.
46.	*Eria muscicola*.	India	Epiphyte	Whole plant	Used in disease of heart, lungs, eye, ears and nervous system.
47.	*Eria pannea*	India	Epiphyte	Root	Used as analgesic.
48.	*Eulophia camprestris*	India	Terrestrial	Rhizome	Used as tonic, Cough, Stomach problem, Paralysis, and as aphrodisiac
49.	*Eulophia dabia*	India	Terrestrial	Tubers	Used in the treatment of cough and cold.
50.	*Eulophia epidendraea* (J.Koenig ex Retz.)	India	Terrestrial	Rhizome	Used in the treatment of boils and Breath feeding problems.
51.	*Eulophia herbaceae* Lindl.	India	Terrestrial	Tubers	Salep
52.	*Eulophia ochreata* Lindl.	India	Terrestrial	Tubers and Rhizomes	As an antioxidant, aphrodisiac and antirheumatic properties.
53.	*Eulophia nuda* Lindl.	India	Terrestrial	Root	In cancer, blood related diseases, bronchitis,
54.	*Eria spicata* (D.Don)	India	Terrestrial	Stem/Pseudobulb	Used as an analgesic.
55.	*Flickingeria fugax* (Rchb.f.) Seidenf.	India	Terrestrial	Whole plant	Used as tonic.
56.	*Flickingeria macraei* (Lindl.) Seidenf.	India	Terrestrial	Root	Used for treat skin allergy, eczema.
57.	*Geodorum densiflorum* (Lam.) Schltr.	India	Terrestrial	Root	Used for treating for wounds and insect bite.
58.	*Geodorum recurvum* (Roxb.) Alston	India	Epiphyte	Stem	Suppress tumors.
59.	*Goodyera repens* (Lindl.)	India	Terrestrial	Root, Leaves	Used as blood purifier, female disorders, bladder diseases and reptile bite.
60.	*G. schlechtendaliana*	India	Terrestrial	Leaves	Tincture of the plant in rice wine is used for internal injuries and to improve circulation.
61.	*Gymnadenia orchidis* Lindl	India	Terrestrial	Root, Stem/Pseudobulb	Used to treat cuts, wounds, liver and gastric problems. Used as aphrodisiac, tonic and for treating urinary disorders.
62.	*Habenaria commelinifolia* (Roxb.) Wall. ex Lindl.	India	Terrestrial	Root	To cure spermatorrhea.
63.	*Herminium monorchis* (L.) R. Br	India	Epiphyte	Root	As a tonic.
64.	*Habenaria commelinifolia*	India	Epiphyte	Root	As salep for combination with other orchids.

	(Roxb.) Wall. ex Lindl.				
65.	*Herminium lanceum* (Thunb. ex Sw.) Vuijk	India	Epiphyte	Whole Plant	As an anti-diuretic.
66.	*Habenaria pectinata* D.Don	India	Epiphyte	Tuberous powder	As antimicrobial.
67.	*Luisa tenuifolia*	India	Epiphyte	Whole Plant	Used boils and tumours.
68.	*Luisa trichorrhiza*	India	Epiphyte	Leaves, whole plant	Leaves are applied to relieve muscular pain. In Jaundice.
69.	*Luisia zeylanica* Lindl.	India	Epiphyte	Leaves	Used in wounds boils and burns.
70.	*Liparis odorata* (Willd.) Lindl.	India	Terrestrial	Stem/Pseudobulb	Used to treatment of cancerous ulcers and gangrene.
71.	*Malaxis acuminata* D.Don	India	Terrestrial	Stem/Pseudobulb	As a coagulant, diathesis, burning sensation in stomach, pyrexia, arthritis.
72.	*Malaxis muscifera* (Lindl.) Kuntze	India	Terrestrial	Rhizome	Used as tonic, In fever, and in treatment of burning sensation.
73.	*Mycaranthes pannea* (Lindl.) S.C. Chen & J.J. Wood	India	Epiphyte	Leaves	Used in cases of ague.
74.	*Nervilia aragoana* Gaudich.	India	Terrestrial	Leaves	Leave decoction is used as protective medicine after childbirth.
75.	*Nervilia aragoana* Gaudich.	India	Terrestrial	Whole plant	Used in urinary tract diseases, asthma, vomiting, diarrhoea & mental disease.
76.	*Otochilus albus* Lindl.	India	Epiphyte	Stem/Pseudobulb, whole plant	Used as a tonic.
77.	*Pholidota chinensis* Lindl.	India	Epiphyte	Stem/Pseudobulb	Used for toothache. As a Tincture to treat internal bleeding, tuberculosis, asthama.
78.	*Pholidota imbricata* Hook.	India	Epiphyte	Stem/Pseudobulb	As an analgesic.
79.	*Pholidota articulata* Lindl.	India	Epiphyte	Root	Used for treatment of cancer, eruptions and skin ulcers.
80.	*Pleion emaculata*	India	Epiphyte	Stem/Pseudobulb	Used to treat liver and stomach diseases.
81.	*Pholidota pallida* Lindl.	India	Epiphyte	Root, Stem/Pseudobulb	Used to treat abdominal pain, rheumatic pain, reduce fever and sleep.
82.	*Ponerorchis chusua* (D.Don) Soó	India	Terrestrial	Root	It is used for treating diarrhoea, chronic fever, and dysentery.
83.	*Papilionanthe teres* (Roxb.) Schltr	India	Epiphyte	Leaves, Stem/Pseudobulb,Whole plant	Used in ear infection, nose bleeding, pyrexia.
84.	*Platanthera edge*	India	Terrestrial	Leaves	It is used as blood purifier.
85.	*Pholidota articulata* Lindl.	India	Epiphyte	Stem/Pseudobulb	Dislocation of bones.
86.	*Phaius tankervilleae* (Banks) Blume	India	Epiphyte	Stem/Pseudobulb	It is used as anti-inflammatory and analgesics.
87.	*Renanthera imschootiana* Rolfe	India	Epiphyte	Leaves	In skin diseases.
88.	*Rhynchostylis retusa*	India	Epiphyte	Root/Whole plant	Rheumatic disease, wounds, asthma, tuberculosis, nervous twitchings, cramps, kidney stone, menstrual disorders.
89.	*Satyrium nepalense* D.Don	India	Terrestrial	Root	Used as aphrodisiac, dysentery and malaria.
90.	*Scaphyglottis livida* (Lindl.) Schltr.	India	Epiphyte	Whole Plant	As anti-inflammatory and analgesics.
91.	*Smitinandia micrantha* (Lindl.) Holttum	India	Epiphyte	Stem/Pseudobulb	Antibacterial.
92.	*Spathoglottis plicata* Blume	India	Epiphyte	Leaves	It is used to treat rheumatic disease.
93.	*Trudelia cristata* (Wall. ex Lindl.) Senghas	India	Epiphyte	Roots	In wounds and dislocation of bones.
94.	*Thunia alba* (Lindl.) Reichb. f.	India	Epiphyte	Stem/Pseudobulb	In dislocated bones.
95.	*Vanda coerulea* Griff. ex Lindl.	India	Epiphyte	Flower/fruits/seeds	As a eye drops for in glaucoma, cataract and blindness.
96.	*Vanda roxburghii*	India	Epiphyte	Leaf, roots	Antipyretic, otitis media. The roots are used in rheumatism, acid peptic diseases, sciatica.
97.	*Vanda tessellate*	India	Epiphyte	Roots, Leaves, Flowers	Anti-inflammatory, ear infections, Antipyretic The roots are used as laxative and tonic for liver, aphrodisiac.
98.	*Zeuxine longilabris* (Lindl.) Trimen	India	Terrestrial	Whole plant	In cough and cold.
99.	*Zeuxine strateumatica* (L.) Schltr.	India	Terrestrial	Root	As a tonic.

Conclusion

Orchids hold immense ethnomedicinal significance, playing a vital role in traditional health systems across many cultures, particularly in Asia. Their therapeutic uses for ailments ranging from respiratory disorders to skin infections and reproductive health underscore the importance of conserving these plants. However, the increasing threats of habitat loss, overexploitation, and climate change have put many orchid species at risk. Conservation of these species is not only essential for maintaining biodiversity but also for preserving invaluable traditional knowledge that benefits local communities. Urgent measures, including habitat protection, sustainable harvesting practices, and community-based conservation programs, are needed to ensure the long-term survival of these remarkable plants and the traditional wisdom associated with them [2, 4, 6, 13].

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