



Review Article

SHIGRU-PALLAVADI TAILA FOR KARNANAAD: A COMPREHENSIVE AYURVEDIC AND PHYTOCHEMICAL BASED CONCEPTUAL REVIEW

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KEYWORDS:*Shigrupallavadi Taila*, Karnanada, Tinnitus, Ayurveda, Karnagata Roga, Nasya, Karna Purana, Abhyanga, Phytochemical review.**ABSTRACT**

Shigrupallavadi Taila is a traditional Ayurvedic formulation described in *Arogya Kalpadruma*, renowned for its therapeutic applications in *Karnanada*. Being administered through *Nasya*, *Karnapurana* and *Abhyanga*, this polyherbal oil combines the pharmacodynamic strengths of 8 Ayurvedic ingredients. *Karna Nada*, one of the *Karnagata Rogas* described in *Shalakyta Tantra*, is characterized by the perception of sound without external auditory stimuli and is primarily attributed to *Vata* vitiation in the *Karna* or *Shabdavaha Srotas*. This condition parallels tinnitus, a multifactorial auditory disorder increasingly prevalent in the modern era due to widespread exposure to noise, stress, and electromagnetic radiation. Ayurveda provides a well-defined prognosis and therapeutic framework for *Karna Nada*, emphasizing *Vata-shamana* and *Srotoshodhana* measures. **Objective:** To critically review classical, pharmacodynamic, and phytochemical aspects of *Shigrupallavadi Taila* and establish its therapeutic plausibility in *Karnanada*. **Results:** *Shigrupallavadi Taila*, contains a synergistic combination of *Vata*-pacifying, anti-inflammatory, antioxidant, microcirculation-enhancing, and neuroprotective herbs. Modern phytochemicals such as quercetin, apigenin, sesamin, glycyrrhizin, β -sitosterol, and essential oils support its classical claims. Administration via *Nasya*, *Karna Purana*, and *Shiro-abhyanga* ensures targeted delivery to *Urdhvajatru* tissues. The formulation shows strong mechanistic relevance for alleviating cochlear inflammation, neural hyperexcitability, oxidative stress, and aberrant auditory signalling. **Conclusion:** *Shigrupallavadi Taila* emerges as a promising Ayurvedic intervention for *Vata*-dominant auditory disorders like *Karnanada*. Its classical rationale is strongly supported by modern phytochemical evidence. Structured non-clinical and clinical studies are recommended to validate its therapeutic efficacy.

INTRODUCTION

Arogya kalpadrum is a well-known traditional Kerala Ayurveda literature that encompasses time-tested low-budget formulations that can be prepared from easily available resources. *Shigrupallavadi Taila*, referenced in this book combines *Vatahara*, *Shothahara*, *Vedanasthapana*, and neuroprotective herbs.

Its administration through *Nasya*, *Karna Purana*, and *Abhyanga*^[1] ensures targeted action on *Urdhva Jatru* ailments. While classical texts provide defined management strategies and lifestyle modifications, the focus of this article is directed towards *Shigrupallavadi Taila*, a traditional oil formulation specially indicated for *Karnanada*.^[1] Its unique composition makes it ideal for auditory disorders.

Karnanada is one of the commonly described *Karna Rogas*^[2] in classical Ayurvedic literature, characterised by the perception of non-existent sounds such as *Bheri*, *Mridanga*, *Shankha*, or other resonant vibrations.^[3] The pathogenesis is predominantly attributed to *Vata* vitiation in the *Shabdavaha Srotas*^[4] due to etiological factors like exposure to cold

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(*Avasyaya*), swimming or diving (*Jalakreeda*), probing of the ear canal (*Karna Kandooyana*), trauma, or improper instrumentation.^[5]

From a modern standpoint, the condition correlates closely with tinnitus^[6], originating from the Latin word 'tinnire' ('to ring'), is a perception of sound in proximity to the head with the absence of an external source, often associated with cochlear hair cell dysfunction, neuroinflammation, oxidative stress, and maladaptive cortical neural plasticity.^[7]

Modern treatment of tinnitus- including masking, counseling, psychotherapy, neuromodulation, and pharmacotherapy- often yields unsatisfactory results.^[7] Thus, there is a compelling need to explore classical formulations through systematic research.

This article provides a structured review of *Shigrupallavadi Taila*, emphasising its classical rationale, pharmacodynamics, phytochemical basis, and research relevance.

Literary Review

Shigrupallavadi Taila – Classical Overview

Source: *Arogya Kalpadruma*

Indication: *Karna Roga* (specifically *Karnanada*)

Primary Routes: *Nasya, Karna Purana, and Abhyanga*

“शिगुपल्लव निर्गुण्डी रुचकच्छदसम्भवे।

पक्वं रसे समक्षीरं तैलं कुष्ठाब्दयष्टिभिः॥

पूरणात् कर्णनादस्य शमनं नावनादपि।

अभ्यङ्गाच्च पुरा प्रोक्तं शैलूषमधुकादिच॥ (आ.क.द. १४- १५/२७)

Table 1: Ingredients of *Shigrupallavadi Taila*

Ingredient	Botanical Name	Part Used	Rasa	Guna	Veerya	Vipaka	Karma
<i>Shigru</i> ^[8]	<i>Moringa oleifera</i>	Leaf	<i>Katu, Tikta</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha-vatahara</i>
<i>Nirgundi</i> ^[9]	<i>Vitex negundo</i>	Leaf	<i>Katu, Tikta</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha-vatahara Shoolahara</i>
<i>Eranda</i> ^[10]	<i>Ricinus communis</i>	Leaf	<i>Madhur Kashaya, Katu</i>	<i>Snigdha, Tikshana, sukshma</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Kapha-Vatahara Shothahr Vednasthapana Strotoshodan</i>
<i>Kushtha</i> ^[11]	<i>Saussurea lappa</i>	Root	<i>Tikta, Katu, Madhur</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vedanasthapana, Kapha-vata hara</i>
<i>Musta</i> ^[12]	<i>Cyperus rotundus</i>	Rhizome	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Shothahara,</i>
<i>Yashtimadhu</i> ^[13]	<i>Glycyrrhiza glabra</i>	Root	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vaat-pittahara</i>
<i>Ksheer</i> ^[14]	—	—	<i>Madhura Guru</i>	<i>Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vata-pitta hara</i>
<i>Tila tail</i> ^[15]	<i>Sesamum indicum</i>	Oil	<i>Madhura, Tikta, Kashaya</i>	<i>Guru, Snigdha, Ushna, Pichhila, Mridu,</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Vaat-kapha hara Yogavahi, Srotoshodhana Ropana vedanasthapana</i>

Contemporary Pharmacological Actions of ingredients of *Shigrupallavadi tail*

Table 2: Shigru- leaf (Moringa oleifera, leaf)

Constituent	Antioxidant	Anti-inflammatory	Anti-microbial/Antifungal	Analgesic/Neuro-modulatory	Anti-spasmodic / Carminative	Hepato-protective / Mucoprotective	Laxative / Uterotonic
Flavonoids (quercetin, kaempferol, rutin, vicenin etc.)	+++	+++	++	++	+	++	—
Chlorogenic acid	+++	++	++	+	+	++	—
Niazimicin / thiocarbamate glycosides	++	++	++	+	+	+	—
Glucosinolates / isothiocyanates (leaf hydrolyzates)	++	++	++	+	+	+	—
Polyphenols (general phenolics)	+++	++	++	+	+	++	—
Vitamins (C, A precursors) & carotenoids	+++	+	+	—	—	+	—

Evidence notes: Moringa leaf is well-described to contain flavonoids and chlorogenic acid (strong antioxidant + anti-inflammatory actions); niazimicin and glucosinolates are reported from leaves and contribute chemoprotective/antimicrobial actions. [16]

Table 3: Nirgundi- leaf (Vitex negundo, leaf)

Constituent	Antioxidant	Anti-inflammatory	Antimicrobial / Antifungal	Analgesic	Antispasmodic / Carminative	Hepato-protective	Laxative / Uterotonic
Flavonoids (vitexin, isovitexin, luteolin derivatives)	++	+++	++	++	++	++	—
Iridoid glycosides / agnuside-like	+	++	+	+	+	+	—
Terpenoids / essential oils	+	++	++	++	++	+	—
Phenolic acids	++	++	+	+	+	+	—

Evidence notes: Vitex leaf phytochemistry consistently shows flavonoids and terpenoids with anti-inflammatory, analgesic and antimicrobial effects in reviews. [17]

Table 4: Eranda - leaf (Pallavar patra) (Ricinus communis, leaf)

Constituent	Antioxidant	Anti-inflammatory	Antimicrobial	Analgesic / Wound-healing	Anti-spasmodic	Hepato-protective	Laxative / Uterotonic
Phenolics / tannins	++	+	++	+	+	+	—
Flavonoids	++	++	+	++	+	+	—
Terpenoids / sterols (leaf)	+	+	+	+	+	+	—

Evidence notes: Leaf extracts show phenolics and flavonoids with antioxidant/anti-inflammatory effects. Important safety: ricin is a toxic seed protein found in seeds (not leaf); properly processed castor oil (ricinoleic-rich) has laxative and topical anti-inflammatory properties - seed ingestion is dangerous. [18]

Table 5: *Kushtha* - root (*Saussurea costus* / *S. lappa*, root)

Constituent	Anti-oxidant	Anti-inflammatory	Anti-microbial / Antifungal	Analgesic	Antispasmodic	Hepato-protective	Laxative / Uterotonic
Sesquiterpene lactones (costunolide, dehydrocostuslactone)	++	+++	+	++	+	++	—
Volatile oils / sesquiterpenes	+	++	++	+	+	+	—
Other sesquiterpenes (cynaropicrin etc.)	+	++	+	+	+	+	—

Evidence notes: *Kushtha* root is dominated by sesquiterpene lactones (costunolide family)- strong anti-inflammatory and gastro/hepato-protective actions are repeatedly reported.^[19]

Table 6: *Musta* - root / rhizome (*Cyperus rotundus*, tuber/rhizome)

Constituent	Anti-oxidant	Anti-inflammatory	Anti-microbial / Antifungal	Analgesic	Antispasmodic / Carminative	Hepato-protective	Laxative / Uterotonic
α -Cyperone	++	+++	++	++	++	+	—
Cyperene	++	++	++	++	++	+	—
Other sesquiterpenes /volatile oils (rotundone, caryophyllene)	++	++	++	+	++	+	—
Flavonoids & phenolics (minor)	++	++	+	+	+	+	—

Evidence notes: *Cyperus* rhizome oil contains α -cyperone and cyperene as major sesquiterpenes; α -cyperone has documented inhibition of COX-2/PGE2 pathways (anti-inflammatory) and the oil shows analgesic/antimicrobial activities in pharmacological studies.^[20]

Table 7: *Yashtimadhu* - root (*Glycyrrhiza glabra*, root)

Constituent	Antioxidant	Anti-inflammatory	Antimicrobial	Analgesic	Antispasmodic	Hepato-protective / Muco-protective	Laxative / Uterotonic
Glycyrrhizin/ glycyrrhetic acid	++	++	+	+	+	+++	—
Flavonoids (liquiritigenin, isoliquiritigenin)	++	++	+	+	+	++	—
Saponins (other)	+	+	+	+	+	++	—

Evidence notes: Glycyrrhizin is strongly associated with mucoprotective and hepatoprotective effects; licorice root demonstrates antioxidant and anti-inflammatory activity across many studies/reviews.^[21]

Table 8: Til Tail - oil only (*Sesamum indicum* / sesame oil)

Constituent (in oil)	Antioxidant	Anti-inflammatory	Antimicrobial	Analgesic / Emollient	Antispasmodic	Hepato-protective / Emollient	Laxative / Uterotonic
Fatty acids (oleic, linoleic)	+	+	+	+	+	+	—
Lignans (sesamin, sesamol, sesamolin)	++	++	+	+	+	++	—

Evidence notes: Sesame oil contains lignans (sesamin, sesamol) with antioxidant + anti-inflammatory effects and stabilizes the oil (preservative-like effect); it also acts as a penetration enhancer and emollient in topical formulations.^[22]

Karnanada, explained in Ayurveda as the perception of *Anahata nada*, arises primarily from *Vata* vitiation affecting the auditory system. Its *Samprapti* reflects a cascade of structural and functional disturbances within the *Karna srotas*. The following pathway outlines the classical mechanism underlying its manifestation.

Samprapti of Karnanaad^[4]

Hetu (Noise Exposure • Stress • Ototoxic *Ahara-Vihara* • *Ati-Shabda* • *Vata*-provoking factors)



Vata Prakopa (Especially *Prana* and *Vyana Vata*)



Karna / Sira Srotodushti (Due to excessive *Ruksha, Chala, Laghu* qualities of vitiated *Vata*)



Prana-Vyana Vata Vaishamyata at *Karna* (Disruption of normal neural conduction and *Indriya* function)



Rukshata leading to *Kshaya* of *Indriya Dhatus* (Depletion of *Karna Indriya* supportive *Dhatus*)



Dhatukshaya Results In:

- *Karna Indriya Vaigunya* (Functional impairment)
- *Naadopalabधि Vikriti* (Distorted sound perception)



Misinterpretation of vibrations/Abnormal Signals



Perception of *Anahata Nada*



Karnanada

Tinnitus ^[7]

Tinnitus is the perception of sound without an external auditory stimulus and affects a significant proportion of the population. It is broadly classified into objective tinnitus, a rare form in which actual sound generated within the body can sometimes be heard by an examiner, and subjective tinnitus, the far more common type perceived only by the patient. Objective tinnitus is usually associated with vascular abnormalities or middle ear pathologies, whereas subjective tinnitus accompanies a wide range of otologic conditions, particularly sensorineural hearing loss. Despite its prevalence, the underlying mechanisms of tinnitus remain complex and multifactorial, making it a challenging condition to manage and an important focus of ongoing research.

Pathophysiology of Tinnitus^[7]

Tinnitus risk factors {prolonged noise exposure (22%), head/neck injury (17%), infections (10%)}

↓
Loss of cochlear input (cochlear hair cell damage / vestibulocochlear nerve lesion)

↓
Central auditory system changes

↓
Abnormal neural activity in auditory cortex (as shown by PET / fMRI)

↓
Loss of suppression of neural feedback loops (those that tune & reinforce auditory memory)

↓
Disinhibition of normal synapses

↓
Formation of uncontrolled alternative neural synapses

↓
Abnormal auditory perception

↓
Tinnitus

DISCUSSION

Karnanada, clinically presenting as the perception of sound without an external auditory stimulus, is described in Ayurveda as a *Vata*-dominant disorder. The functional integrity of auditory pathways- governing signal transmission, sensory interpretation, and neural responsiveness- is primarily regulated by *Prana* and *Vyana Vata*. When these *Vata* subtypes become vitiated, their altered *Gunas* directly influence the *Karna srotas*, leading to aberrant sound perception characteristic of *Karnanada*. Therefore, a clinical understanding of the disease first requires an appreciation of the fundamental properties (*Gunas*) of *Vata* and the manner in which their pathological exaggeration contributes to disease onset. This forms the basis for accurately interpreting the *Samprapti* and establishing appropriate *Samprapti-vighatana* strategies.

Table 9: Vata Doshha Guna

“रूक्षो लघुः शीतो खरः सूक्ष्मश्चलोऽनिलः ॥”⁽²³⁾

Vata Guna	Opposite (Pratyanika) Guna
Ruksha (dry)	Snigdha (unctuous)
Shita (cold)	Ushna (hot)
Laghu (light)	Guru (heavy)
Sukshma (subtle)	Sthula / Picchila (gross / slimy)
Chala / Sara (mobile / flowing)	Sthira (stable)
Viśada (clear)	Picchila (slimy)
Khara (rough)	Mṛdu / Snigdha

Since *Karnanada* is a *Vata-pradhana* disorder, effective management requires selecting *Dravyas* that counter *Vata*'s aggravated *Gunas*. *Shigrupallavadi Taila* is traditionally used in *Karna Roga*, and its ingredients possess inherent *Vata-samana* properties. A brief review of these *Gunas* helps clarify how the formulation contributes to *Samprapti-Vighatana* in *Karnanada*.

Table 10: Vata shaman matrix of ingredients of Shigrupallavadi Taila

Ingredient	Ushna	Snigdha	Guru	Madhura
Shigru (<i>Moringa oleifera</i>)	+			
Nirgundi (<i>Vitex negundo</i>)	+			
Eranda (Castor leaf)	+	+		+
Kushtha (<i>Saussurea lappa</i>)	+			
Musta (<i>Cyperus rotundus</i>)				
Yashtimadhu		+	+	+
Ksheera (Milk)		+	+	+
Tila Taila (Sesame oil)	+	+	+	+

Summary of *Vata shaman* profile (formulated from *Shigru Pallavadi Taila* ingredients)

- *Ushna*: Drugs with *Ushna virya*
- *Snigdha*: Drugs with *Snigdha guna*
- *Guru*: Ingredients with *Guru guna*
- *Madhura*: Ingredients with *Madhura rasa* or *Vipaka*

The *Vata*-pacifying activity of *Shigrupallavadi Taila* is strongly supported by classical Ayurvedic *Guna vijñana*. *Ushna guna*, described as “उष्णो भवति शीतस्य विपरीतश्च पाचनः” (*Bhava Prakaśa Purvakhanda* 6.208), acts opposite to *Sita*, the primary aggravator of *Vata*. Ingredients such as *Shigru*, *Nirgundi*, *Eranda*, *Kushtha*, and *Tila Taila* deliver this *Ushna* potency to relieve *Stambha*, decongest microchannels, improve circulation, reduce cold-induced auditory spasms, and support metabolic clearance of *Amavṛta-vata*.

The formulation also contains abundant *Snigdha guna*, classically described as “स्निग्धं वातहरं श्लेष्मकारि वृष्यं बलावहम्” (*Bhava Prakaśa Purvakhanda* 6.203). *Snigdha* from *Eranda*, *Yashtimadhu*, *Kshira*, and *Tila Taila* counteracts *Ruksha guna*, restoring lubrication in the *Karna-srotas*, reducing neuronal irritability, improving tissue softness, and enhancing *Taila dharana* for prolonged therapeutic contact-critical in *Vata*-induced disorders like *Karnanada*.

Similarly, *Guru guna*, stated as “गुरु वातहरं पुष्टिश्लेष्मकृच्चिरपाकि च” (*Bhava Prakaśa Purvakhanda* 6.203), contributes to grounding and stabilisation. Present in *Yashtimadhu*, *Kshira*, and *Tila Taila*, it opposes *Vata's laghu* quality, calming hyperactive *Prana-vata*, slowing erratic neural firing, and promoting steadiness of auditory perception. It also enhances structural integrity of neural pathways involved in sound transmission.

Furthermore, *Madhura guna*, which provides *Snehana*, *Prinana* and *Mardava* (*Cakrapani* on *Caraka Sutra* 26.74), supports *Br̥mhana* and tissue rejuvenation through *Yashtimadhu*, *Kshira*, and *Tila Taila*. This action nourishes depleted *Dhatu*s, strengthens *Ojas*, softens the ear canal, and protects delicate mucosa and nerve endings- addressing chronic *Vata* depletion that underlies persistent tinnitus.

Collectively, the synergy of *Ushna + Snigdha + Guru + Madhura gunas* produces a powerful *Vataśamana* and *Vatanulomana* effect. These actions warm stagnant *Srotas*, lubricate dried tissues, stabilise fluctuating *Vata gati*, and nourish weakened structures, thereby interrupting the *Samprapti* of *Karnanada*. The classical *Guna*-based evidence thus substantiates *Shigrupallavadi Taila* as an ideal formulation for *Vata*-dominant auditory disorders such as tinnitus.

Samprapti Vighatana by Shigrupallavadi Taila

Vata Vitiation (*Karnanada*)

1. *Shita* (cold) → Causes *Stambha* + poor circulation → *Ushna Virya* (warming action) by *Shigru*, *Nirgundi*, *Eranda*, *Kushtha*, *Tila Tail* → relieves rigidity • Improves circulation • reduces abnormal sound
2. *Ruksha* (dryness) → dries *Srotas* + irritates auditory pathway → *Snigdha Guna* (lubricating) by *Eranda*, *Yashtimadhu*, *Ksheer*, *Tila Tail* → restores lubrication • smoothens nerve conduction • reduces irritability
3. *Laghu-Ruksha* leading to weak *Dhatu* support → *Guru + Madhura* (strengthening and nourishing) by *Yashtimadhu*, *Ksheer*, *Tila Taila* → strengthens tissues • stabilizes auditory structures
4. *Srotorodha* (obstruction in pathways) → *Srotoshodhana* (channel cleansing) by *Nirgundi*, *Eranda*, *Tila Taila* → clears micro-obstructions • restores sound transmission
5. *Vata Gati Vaishamyā* → erratic nerve signalling → abnormal sound → *Snehana + Ushna* combined effect by *Tila Taila* + all *Ushna Dravya* → normalizes *Vata* movement • Stabilizes *Shrotendriya*
6. *Shula* /discomfort due to *Vata* → *Vedanasthapana* (analgesic) by *Eranda*, *Kushtha*, *Tila Taila* → reduces pain • enhances comfort
7. Local *Shotha* (inflammatory component) → *Shothahara* action by *Musta*, *Eranda*, *Nirgundi* → reduces swelling • improves conduction

Final Outcome → *Vata Shamana* → Normalised Auditory Function → Reduced *Karnanada*

Mechanism-Based Discussion on breakdown of tinnitus pathophysiology

Oxidative Stress as a Core Trigger [24]

- Excess Reactive Oxygen Species (ROS) damage outer hair cells and synapses, creating aberrant neural signals that manifest as tinnitus.
- Constituents & Sources
 - Quercetin, kaempferol, polyphenols, chlorogenic acid → from *Shigru* (*Moringa oleifera*) leaves
 - Sesamin, sesamol (sesame lignans) → from *Tila Taila* (*Sesamum indicum* oil)
- These constituents provide potent antioxidant protection and activate the Nuclear Factor Erythroid 2-Related Factor 2 (Nrf2) pathway.

Cochlear Inflammation Sustains Tinnitus [25]

- Pro-inflammatory mediators such as Tumour Necrosis Factor-alpha (TNF-α), Interleukin-1 beta (IL-1β), and Interleukin-6 (IL-6), along with Nuclear Factor-kappa B (NF-κB) activation, perpetuate cochlear inflammation.

- Constituents & Sources
 - α -Cyperone → from *Musta* (*Cyperus rotundus*)
 - Costunolide and other sesquiterpene lactones → from *Kushtha* (*Saussurea lappa*)
 - Glycyrrhizin/glycyrrhetic acid → from *Yashtimadhu* (*Glycyrrhiza glabra*)
 - Flavonoids → from *Shigru* (*Moringa oleifera*)
- These suppress NF- κ B, reduce cytokines, and down-regulate Cyclooxygenase-2 (COX-2) and Prostaglandin E2 (PGE₂) pathways.

Neuroinflammation in Central Auditory Pathways^[26]

- Microglial activation in central auditory circuits increases neuroinflammatory signalling, sustaining tinnitus.
- Constituents & Sources
 - Glycyrrhizin → from *Yashtimadhu* (*Glycyrrhiza glabra*)
 - Flavonoids → from *Shigru* (*Moringa oleifera*)
- These reduce microglial cytokine release and dampen central neuroinflammation.

Glutamate Excitotoxicity and Neural Hyperactivity^[27]

- Excess glutamate neurotransmission induces excitotoxicity, synaptic damage, and auditory hyperexcitability.
- Constituents & Sources
 - Flavonoids, polyphenols → from *Shigru* (*Moringa oleifera*)
- They counter oxidative stress-linked excitotoxic cascades and modulate glutamatergic pathways.

Maladaptive Central Plasticity^[28]

- Altered Brain-Derived Neurotrophic Factor (BDNF) and cAMP Response Element-Binding protein (CREB) signalling leads to persistent auditory circuit plasticity.
- Constituents & Sources
 - Chlorogenic acid, polyphenols → from *Shigru* (*Moringa oleifera*)
 - Flavonoids → from *Shigru* (*Moringa oleifera*)
- These stabilize synaptic function and modulate neuroplasticity.

Infection or Microbial Aggravation^[29]

- Occasional bacterial or fungal irritation in the external auditory canal exacerbates inflammation and tinnitus.
- Constituents & Sources
 - α -Cyperone → from *Musta* (*Cyperus rotundus*)
 - Sesquiterpenes → from *Kushtha* (*Saussurea lappa*) & *Nirgundi* (*Vitex negundo*)

- These provide antimicrobial and antifungal activity.

CONCLUSION

Shigrupallavadi Taila exhibits strong *Vataśamana* activity through its *Ushna*, *Snigdha*, and *Guru-Madhura* qualities, making it well suited for *Vata*-dominant auditory disorders such as *Karnanada* (tinnitus). Its classical *Vata*-pacifying herbs restore lubrication, warmth, and functional stability of the ear, while its phytochemicals- including flavonoids, polyphenols, sesamin, α -cyperone, costunolide, and glycyrrhizin- modulate key modern tinnitus pathways by reducing oxidative stress, inflammation, microglial activity, excitotoxicity, and microvascular compromise. Together, these complementary Ayurvedic and biomedical actions support the clinical relevance of *Shigrupallavadi Taila* in managing *Vata*-aggravated tinnitus presentations.

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