INTRODUCTION
The genus Grewia belongs to family Tiliaceae. This genus comprising shrubs and trees and is distributed in the warmer parts of the world. Nearly 40 species of this genus are found in India some of which are well known for their medicinal value1-3.

Pharmacological properties
The different parts of different species of genus Grewia are used as folk medicine in the different parts of globe. Diverse bioactivity studies on different species of genus Grewia have been reported. The roots of G. abutilifolia are applied to abscesses.3 The fruit of G. asiatica is astringent and cooling. Infusion of bark is demulcent while leaves are used in putstular eruptions. Its root bark is used as a remedy for rheumatism. 50% Ethanolic extract of aerial parts of G. asiatica showed hypotensive activity while the aqueous extract of stem bark is reported to be antidiabetic.6 Its seed extract and seed oil exhibited antifertility activity.7 Fruit Extract of G. asiatica shows radioprotective Effect in Swiss Albino Mice Against Lethal Dose of γ-irradiation.8 The fruit is astringent and stomachic. It is reported that unripe phalsa fruit alleviates inflammation and is administered in respiratory, cardiac and blood disorders, as well as in fever reduction.9 Furthermore, infusion of the bark is given as a demulcent, febrifuge, and treatment for diarrhea. Grewia asiatica contains anthocyanin type cyanidin 3-glucoside, vitamin C, minerals and dietary fibers etc.10 The antioxidant properties of vitamin C are well known and anthocyanin has recently emerged as a powerful antioxidant. Pet. ether extract of G. bicolor is used for treating postulant skin lesions.11 Grewia bicolor is a part of Sudanese traditional medicine, and is used in the treatment of skin lesions and sometimes also as a tranquilizer.12 The three alkaloids, Harman, 6-methoxyharman, and 6-hydroxyharman, isolated from the methanol extract of this plant, have antibacterial properties.13 Chloroform extract of the aerial parts of G. bilamellata exhibited antimalarial activity against the D6 and W2 clones of P. falciparum.14 Grewia carpinfolia is used in washing hair to remove and prevent lice. Ethanolic extract of stem bark of G. elastica showed CNS depressant activity.15 Various parts of G. hissuta are used in headache, eye complaints, sores and cholera while ethanolic extract of stem bark exhibited antiviral and diuretic activity.16 17 The leaves are useful in nose and eye diseases, treating splenic enlargement, piles, rheumatism and relieving joint pain while the roots are used in diarrhoea, dysentery and as a dressing for wounds. The plant G. microcos is used for treating indigestion, eczema and itch, small pox, typhoid fever, dysentery and syphilitic ulceration of the mouth. Grewia mollis is known to be a strong irriressistant. Various parts of the plant are used in food and medicine. In Nigeria, the stem bark powder or mucilage is used as a thickener in local cakes made from beans or corn flour commonly called “Kosai” and “Punkasau” in Hausa (Nigeria), respectively. The dried stem bark is ground and the powder mixed with beans or corn flour thereby enhancing the texture of the food product.16 The flowers and young shoots are sometimes used as a soup or sauce vegetable. The infusion of the bark obtained by cold or hot maceration in water is used in beating mud floors, or mixed with the mud or the walls of huts to give a smooth surface. The mucilaginous property of the bark or leaf is used in application to cuts and sores. The Yoruba in Nigeria use it medicinally at times of child birth.16 Some findings demonstrated that the mucilage obtained from the stem bark can serve as a good binder in pancetamol formulations.17,18 Also the recent reports suggest that high concentration of stem bark in dietary exposure may cause some adverse effects, especially liver injury.19 Phytochemical studies of G. mollis indicated the presence of tannins, saponins, flavonoids, glycosides, phenols, steroids and the absence of alkaloids in the leaves and stem bark while their presence was revealed in the roots.20 Crude methanolic extract of G. mollis exhibited antimicrobial activity.21 Plant parts of G. sapida are used in ulcerated tongue, colic, wounds, cholera and dysentery.1-3. The roots of G. sclerophylla are prescribed in cough and irritable conditions of intestine and bladder, while its decoction is used as an emollient enema while alcoholic extract of aerial parts demonstrated anticancer activity22 while that of G. serralata showed anti-inflammatory activity.23 The bark of G. tillaefolia is used to heal wounds, cure kapha, vata, burning sensation, throat complaints, biliousness and disease of the nose and blood. It is also used in dysentery and externally employed to remove the irritation from cow itch. Its wood in powder form is emetic and antidote to opium poisoning. In G. tillaefolia, the ethanolic extract of aerial parts exhibited CNS depressant and diuretic activity while that of stem bark exhibited spenmic and hypotensive activity.24 The leaves of G. umbellata are used for treating cuts and wounds. The bark and roots of Grewia tillaefolia are used to treat skin diseases, hypertension, ulcers and diarrhoea.25 Lupenol, isolated from this plant, is known to cause apoptosis in several cancer cells.26 The aerial parts of G. umbellifera exhibited CNS depressant, hypotensive and diuretic activities.27 The juice of fresh bark of G. villosa is used with water and sugar for gonorrhoea and urinary complaints and the roots is used in diarrhoea. Other parts of the plant are used in sores, wounds, cholera and dysentery while the stem extract of G. villosa was found to be active in KB cell culture.28 An extract of Grewia villosa extract is used in treatment of tuberculosis,29 and this plant is also known to contain harman alkaloids. Harman alkaloids belong to the class of β-carbolines and bind strongly to receptors in the brain and affect the CNS.30 The mucilage of bark of Grewia tenax is reported to possess bacterical activity and is used in the treatment of tuberculosis in hilly areas. The decoction of wood is given in cough and pains.31 In Sudan, the roots are used for curing various skin diseases,32 the ethanolic extract of the aerial parts was found to exhibit CNS depressant activity,33 Grewia tenax (Forsk.) Fiori, G. florescens Juss and G. villosa Willd fruits, when ripe, are either eaten fresh or left to dry for consumption at a later date. In Sudan, a drink is prepared by soaking the fruits overnight, and then they are hand pressed, sieved and sweetened. A light porridge is prepared by the addition of flour or custard to Grewia.
drink and served during the fasting month of Ramadan and is also fed to lactating mother to improve their health and lactating abilities. Moreover, the fruits are made into a fermented drink in Sudan and Southern Africa\(^33\). \(G. \ tetax\) fruit was reported to contain large amounts of iron\(^34\) and as such is used for treatment of anemia and malaria\(^35\).

**Phytochemical evaluation**

Phytochemically, the genus *Grewia* has been found to possess mainly triterpenoids, fatty component, flavonoids, steroids, saponins and tannins. The compounds isolated from the various species are given in following table.

**Table 1: Compounds isolated from genus *Grewia*.**

<table>
<thead>
<tr>
<th>Plant species</th>
<th>Plant part</th>
<th>Compounds isolated</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>G. asiatica</em></td>
<td>Whole plant</td>
<td>Triterpenoids: lupeol (XI) and betulin (XII)</td>
<td>36-38</td>
</tr>
<tr>
<td><em>G. bicolor</em></td>
<td>Whole plant</td>
<td>Triterpenoids: taraxerol, erythrodiol (X), lupeol (XI), betulin (XII), lupenone, friedelin (XIII) and β-amyrin; β-sitosterol</td>
<td>11</td>
</tr>
<tr>
<td><em>G. bilamellata</em></td>
<td>Aerial parts</td>
<td>Coumarinolignans: grewin(XVII) and cleomiscosin D(XVIII); neolignans: nitidine(XIX) and bilagrewine(XX); triterpenoids: 3α,20-lupanediol (XXI) and 2α-3β-dihydroxy-olean-12-ene-28-oic acid(XXII); pyran derivative: kareol A; sitosterol; daucosterol; 8-O-4'-neolignanguaiacylglycerol-β-coniferyl ether; 2,6-dimethoxy-1-acetylnorquinolin(XXIII) and ciwujiatone(XXIV)</td>
<td>13</td>
</tr>
<tr>
<td><em>G. elyseoi</em></td>
<td>Stem bark</td>
<td>Coumarinolignan : grewin(XVII)</td>
<td>46</td>
</tr>
<tr>
<td><em>G. flavescens</em></td>
<td>Roots</td>
<td>Triterpenoids: α-amyrin, β-amyrin, betulin(XII) and friedelin(XIII); triacontanol and β-sitosterol</td>
<td>47</td>
</tr>
<tr>
<td><em>G. mollis</em></td>
<td>Aerial parts</td>
<td>Flavonoids: Luteolin (XXV), 7-[1-β-D-galacturonosido]-4'-(1-β-D glucopyranosyl)-3',4',5,7-Tetrahydroxyflavone (XXVI), Triterpenoids: 7β-hydroxy-23-ene-deoxojessic acid (XXVII), 7β-hydroxy-23-deoxojessic acid (XXVIII), Steroids: β-Sitosterol, β-Stigmasterol-3-O-glucone (XXIX).</td>
<td>21,22,50</td>
</tr>
<tr>
<td><em>G. rothi</em></td>
<td>Root bark</td>
<td>Triterpenoid: lupeol(XI); leucoanthocyanidin(XXX)</td>
<td>49</td>
</tr>
<tr>
<td>*G. tenax syn. <em>G. populifolia</em></td>
<td>Leaves</td>
<td>Triacontanol, tetratriacont-21-ol-12-one and β-sitosterol</td>
<td>50</td>
</tr>
<tr>
<td><em>G. tomentosa</em></td>
<td>Whole plant</td>
<td>Tiliaoside(XXXIII) and luteolin(XXXIII)</td>
<td>55</td>
</tr>
</tbody>
</table>

![Diagram](image-url)
Fig. 1: (Continued)
Fig. 1: (Continued)
Fig. 1: Structures of compounds isolated from the genus *Grewia*
CONCLUSION

Grewia, the versatile genus of medicinal plant is the unique source of various types of compounds having diverse chemical structure. A very little work has been done on the biological activity and possible medicinal application of its phytochemical. It is very useful traditional plant genus, crude extract from various part of various species have a therapeutic uses from time immemorial, so that some active constituent can developed for future studies. The global scenario is changing their face towards herbal medicinal uses due to active constituent can developed for future studies. The global traditionally plant genus, crude extract from various part of various medicinal application of its phytochemical. It is very useful very little work has been done on the biological activity and possible various types of compounds having diverse chemical structure. A

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REFERENCES


