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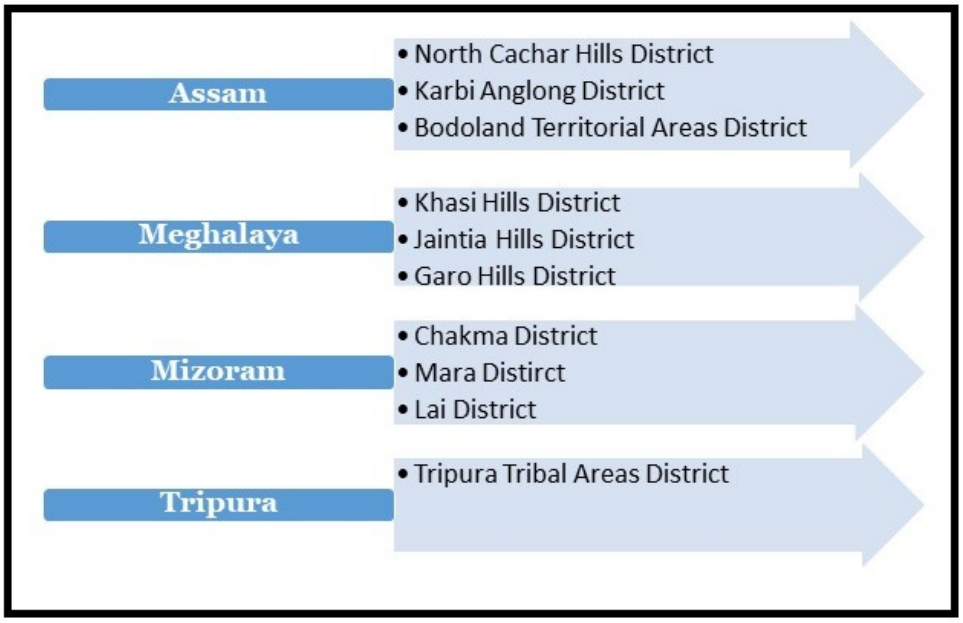
Autonomous District Councils (ADCs)

Climate activist Sonam Wangchuk and other activists from Ladakh have demanded that Schedule 6 be made applicable to the Union Territory.

- **Autonomous District Councils** – These are constituted for Social, Economic, Educational, Ethnic and Cultural advancement of the ***Scheduled Tribe (ST)*** communities.
- **Constitutional provision -** The ***6th Schedule under Article 244*** provides for the formation of Autonomous District Councils (ADCs), as well as Autonomous Regional Councils (ARCs).
- **Members -** ADCs have up to ***30 members***, Governor nominates 4 members, and the rest are elected through adult franchise.
- **Term -** 5 years.
- **Powers** - It can make laws, rules and regulations on land, forest, water, agriculture, village councils, health, sanitation, village- and town-level policing, etc.
- The councils derive all their powers and functions directly from the Constitution.
- **Objectives of the council**
    - Protect tribal land and resources
    - Ensure tribal communities are not exploited or marginalized
    - Preserve and promote tribal cultural and social identities
- **Administrative Authority** - The ***Governor of the state*** has the authority to
    - Determine which areas are administrative units of the autonomous districts and regions
    - Create new autonomous districts or regions
    - Alter the territorial jurisdiction or name of any autonomous district or region
- **Jurisdiction -** The jurisdiction of ADCs is subject to the jurisdiction of the concerned High Court.
- Currently, there are **10 ADCs** in the Northeast, with 3 each in Assam, Meghalaya and Mizoram, and 1 in Tripura.



ADC in Ladakh

- Ladakh activists demand greater autonomy in Ladakh's administration with the Central government.
- Specifically, they wanted ***Schedule 6*** of the Indian Constitution to be made applicable to Ladakh.
- A majority of the population in Ladakh belongs to Scheduled Tribes.

References

1. The Indian Express | Schedule 6 of the Indian Constitution
2. The Hindu | ADC in Ladakh

Tenkana Genus & Tenkana Jayamangali

Recently, arachnologists discovered a new genus of jumping spiders, Tenkana, across southern India. This genus encompasses two previously known species and also includes a spider called Tenkana jayamangali in Karnataka.

- **Tenakana Genus -** Tenkana comes from the Kannada word for south, reflecting that all the known species are from southern India and northern Sri Lanka.
- This new group belongs to the ***Plexippina subtribe of jumping spiders*** and is different from related groups such as Hyllus and Telamonia.
- Two species that were previously in Colopsus - Tenkana manu (found in south India and Sri Lanka) and Tenkana arkavathi (from Karnataka) have now been moved to the new genus.

Tenkana jayamangali

- **Nomenclature** - Jayamangali comes after the Jayamangali River at Devarayanadurga reserve forest in Karnataka, where it was first seen.

- **Habitat -** Unlike related species that live in forests, Tenkana spiders prefer drier areas and ground habitats.
- **Distribution** - Tamil Nadu, Puducherry, Karnataka, Telangana and Andhra Pradesh.
- Tenkana jayamangali is a sister species to T arkavathi and T manu.
- Its movements are reminiscent of those of the unrelated ground-dwelling Stenaelurillus jumping spiders.
- **Appearance** - The males of T jayamangali, pale hairs occupy most of carapace surface area leaving small bald patch posteriorly while in
    - T arkavathi and T manu, pale hairs are gentler on carapace forming narrower bands on carapace laterally, tapering posteriorly.
- Ocular area of T jayamangali is covered with white hairs uniformly, while
    - T arkavathi has distinctive V-shaped bands and T manu has bald ocular area.
- The colour pattern of the male resembles the face of a panda and has a brownish abdomen. The female on the other hand is grey with some pattern.

References

1. The Hindu | Tenkana jayamangali
2. Down to Earth | New jumping spider from Karnataka

Industrial Alcohol

The Supreme Court in its recent Verdict cleared that State's power to make laws on industrial alcohol can't be taken away.

- Industrial alcohol, primarily an ***impure form of ethanol*** is a high-purity alcohol that can be made from different raw materials such as sugarcane, grain, and wheat.
- It serves as a solvent, is involved in the synthesis of organic compounds, and can be used as a fuel source for lamps and engines.
- However, it is ***not suitable for human consumption*** due to its impurities.
- To avoid unauthorized consumption, industrial alcohol is also sold with a nauseous

substance added to make it undrinkable. Such alcohol is also known as ***denatured alcohol.***

- Industrial alcohol is listed in the ***Industries (Development and Regulation) Act, 1951 (IDRA).***
- Excise duty levied on alcohol is a key component of a state's revenue, with states often adding an additional excise duty on alcohol consumption to drive its income up.
- Entry 8 in the State List under the ***7th Schedule*** of Constitution gives the states the power to legislate on the manufacture, possession, transport, purchase and sale of "intoxicating liquors".
- Entry 52 of the Union List and Entry 33 of the Concurrent List mention industries whose control "declared by Parliament by law to be expedient in public interest.
- While both Parliament and state legislatures can legislate on topics within the Concurrent List, the Supreme Court reaffirmed that central laws precedence over state legislation.
- **Recent Verdict –** The apex court ruled that "industrial alcohol" falls within the definition of "intoxicating liquor" under Entry 8 of List II of the Constitution, thereby granting states the authority to regulate and tax its production.
- The order set aside the 1990 judgment in Synthetics & Chemicals Ltd vs State of Uttar Pradesh which held that “intoxicating liquor” refers only to potable alcohol and states cannot tax industrial alcohol.
- The SC said Industrial alcohol means alcohol which is not fit for human consumption and that an artificial interpretation cannot be adopted to give a different meaning to the term ‘intoxicating liquor’.

References

1. The Hindu | Industrial Alcohol
2. Times of India | Industrial Alcohol

Recent Study on Space Rocks

New research shows most space rocks crashing into earth come from a single source, while some of these meteorites come from the Moon and Mars, the majority come from asteroid.

- **Meteorite -** When a fireball reaches Earth’s surface is it called a meteorite. They are commonly designated as 3 types - stony meteorites, iron meteorites, and stony-iron meteorites.
- **Stony meteorites** – It comes in 2 types. The most common are the chondrites.
- **Chondrites –** It have round objects inside that appear to have formed as melt droplets. These comprise ***85% of all meteorites*** found on Earth. Most are known as “ordinary chondrites”.
- They are then divided into 3 broad classes – ***H, L and LL*** based on the iron content of the meteorites and the distribution of iron and magnesium in the major minerals olivine and pyroxene.
- These silicate minerals are the ***mineral building blocks of our Solar System*** and are common on Earth, being present in basalt.

- Carbonaceous chondrites are a distinct group. They contain high amounts of water in clay minerals, and organic materials such as amino acids. Chondrites have never been melted and are direct samples of the dust that originally formed the solar system.
- **Achondrites** - The less common of the two types of stony meteorites are "achondrites". These do not have the distinctive round particles of chondrites, because they experienced melting on planetary bodies.
- **The asteroid belt -** Asteroids are the primary sources of meteorites.
- Most asteroids reside in a dense belt between ***Mars and Jupiter.***
- The interactions with Jupiter can perturb asteroid orbits and cause collisions. This results in debris, which can aggregate into rubble pile asteroids. These then take on lives of their own.
    - S-class asteroids (akin to stony meteorites) are found on the inner regions of the belt, while
    - C-class carbonaceous asteroids (akin to carbonaceous chondrites) are more commonly found in the outer regions of the belt.

One family of asteroids

- The two new studies place the sources of ordinary chondrite types into specific asteroid families and most likely specific asteroids.
- The study reports that ordinary chondrites originate from collisions between asteroids larger than 30 kilometres in diameter that occurred less than 30 million years ago.
- The Koronis and Massalia asteroid families provide appropriate body sizes and are in a position that leads to material falling to Earth.
- Of these families, asteroids Koronis and Karin are likely the dominant sources of H chondrites.
- Massalia (L) and Flora (LL) families are by far the main sources of L- and LL-like meteorites.
- Another study showed that the composition of L chondrite meteorites on Earth is very similar to that of the Massalia family of asteroids.
- In determining the source asteroid body, these reports provide the foundations for missions to visit the asteroids responsible for the most common outerspace visitors to Earth.

Reference

The Hindu | Study on space rocks

Hornets

A species of hornet that often munches on foods containing alcohol can hold its liquor, without any side effects, at levels that no other known animal can tolerate.

- Hornets are social insects and the largest of the ***eusocial wasps.***
- **Family** – Vespidae.
- **Appearance** - They are known for their black or brown bodies with yellow or yellowish

markings.

- It can resemble yellowjackets, which are their close relatives.
- **Size** -Some species of hornets can reach lengths of up to 5.5 cm.
- **Behavior -** They are known for living in colonies and can be quite aggressive when defending their nests.
- They construct nests from a paper-like material made from chewed wood fibers mixed with saliva.
- **Habitat** - Nests are typically found in trees, bushes, or sheltered areas.
- **Distribution -** Asia, Europe, and Africa, with one species introduced to North America.
- **Diet** - Oriental hornet (Vespa orientalis) consumes nectar and ripe fruits, including grapes. This fruit contains sugar that, when it naturally ferments over time, turns into ethanol.
- The oriental hornet shows no ill effects or behavioural changes when it spends a week drinking an 80% alcohol solution.

Fruit flies and tree shrews cannot stomach more than 4% ethanol in their meals.

- The hornets produces NADP+, which helps break down alcohol.
- **Toxicity -** Hornets, particularly larger species like the Asian giant hornet, are known to inject a larger amount of venom per sting compared to most other stinging insects.

Reference

New Scientist | Hornets