JSA NEWSLETTER

JAFFNA SCIENCE ASSOCIATION, JAFFNA, SRI LANKA

Volume 30, Issue 1

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Registration. Number.
JA/GA/P/CA/28
Web: http: //www.thejsa.org
e-Mail: thejsaorg.office@gmail.com

Compiled & edited by:
Mrs. Viniththira Jegapragash
Chief Editor/JSA

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From Editor's Pen……

It's my privilege to be the editor of 30th Annual Scientific Session of the Jaffna Science Association. I am happy to releasethe JSA newsletter. This newsletter comprises of the details of the 30th executive committee, sectional activities, new memberships and the articles from the members of JSA. The JSA newsletter serves as a platform for young writers and researchers to validate their ideas and talents.

I congratulate all sectional chairpersons, editors for their hard work and dedications on performing all the activities that has resulted in the publication of this newsletter.

Mrs. Viniththira Jegapragash,
Chief Editor, JSA

Ants for sustainable Agriculture

Sulakshana Thevaranjan (AG1343)
Faculty of Agriculture
University of Jaffna

In a world with a rapidly expanding population, there is growing demand for food and a simultaneous need for higher environmental sustainability. The area available for agricultural production is limited, thus sustainable methods that do not compromise yields are needed .Assistance to achieve this goal may, unexpectedly for many, come from ants. Theoretical reflections and empirical data suggest the utilization of ants in Integrated Pest Management (IPM) can foster sustainable yields in agricultural systems and, in some systems, at lower costs than alternative non-sustainable methods based on chemical pesticides.

Being organized super organisms, many ant species hold desirable characteristics unshared by most other Beneficial. Firstly, ants are extremely abundant in most ecosystems. They comprise at least one-third of all insect biomass and may equal the biomass of humans. With such abundance, any fruitful interaction derived from this taxon holds a high potential. Secondly, ants possess features making them suitable for biological control programmes. By using a recruitment systems based on trial laying, tandem running and alarm pheromones, ants recruit nest mates to high prey densities. Consequently, they show fast numerical responses when pest populations escalate. This Recruitment behavior can, moreover, be utilized to attract ants to focal points where their services are most needed.

Most ant species are polyphagous, cooperative and often with polymorphic worker forces, enabling them to deploy a wide range of prey types. They may exert pressure on several pest species and life stages; small workers may handle eggs, whereas engage with workers may engage larger sized individuals. On top of this, their territorial behavior makes them attack and deter pests that are far beyond the size of potential prey. Ants are able to store protein in the form of trophic eggs and brood that may be cannibalized, making their colonies stable and a predictable service with low management costs. At high prey densities, ants continue to forage beyond the limits of other arthropods, as they may utilize prey to build up populations of larvae and trophic eggs. Thus, ants can exert continued pressure on pests even after prolonged periods with high pest densities.

With these attributes, ants have started to attract attention as control agents against a number of pests in different agricultural systems; especially, extensive work on weaver ants *Oecophylla smaragdina* and *O. longinoda* has been conducted. Empirical work on these ants provides some of the first examples of well-documented cost-efficient conservation biological control (CBC) programmes, where conservation leads not only to more natural enemies, but also to cascading effects ultimately leading to increased yields. Weaver ants share beneficial traits with almost 13 000 other ant species and are unlikely to be unique in their properties as control agents. A synthesis of applied work on other ant species illustrates potentials for control of arthropod pests, weeds and plant diseases in orchards, forestry and arable crops.

Ants possess traits making them suitable agents in IPM. Weaver ants can reduce pest numbers and their damage and increase yields in multiple crops. Their efficiency is comparable to chemical pesticides or higher, while at lower costs. By showing that ant bio control can match synthetic pesticides in a wide setting of agricultural systems, this reemphasizes the potential of managing ants to achieve sustainable pest management solutions.

In agriculture weaver ants effectively control the pests. Weaver ants are social insects known for their intricate nest building behavior. They use silk produced by their larvae to weave leaves together, creating nests in trees. These ants exhibit strong teamwork, communication with specialized roles. Weaver ants are arboreal and build woven leaf nests in canopies of trees and shrubs and may control pest insects in plantations and forestry.

Weaver ants live in colonies with a caste system, including queen, worker ant, and sometimes solider ants. The workers are responsible for foraging, nest construction, and caring for the food. Weaver ants making nest. They communicate through the pheromones, which play crucial role in coordinating activities such as foraging, defending the nest, and recognizing nest mates. Their diet consists of a variety of smaller insects and other vertebrates. .some species have mutualistic relationship with scale insects feeding on the honeydew produced by these insects. Queen ants responsible for laying eggs. They use both physical aggression and chemical signals to mark and defending their territory.

Weaver ant control pests through several mechanisms. They use predation. They actively hunt a variety of pests such as caterpillars, beetles and other insects. Their strong jaws helps in controlling the pests effectively. Their territorial behavior creates a natural barrier against the pests. It helps to maintain the pest population. They disrupt pest life cycles.it contributing to a more balanced ecosystem. Using of weaver ants in controlling of pest is a good biological control method.it help to reducing the chemical pesticides. To obtain sufficient pest control, it is often necessary to manage the ants to increase their density beyond natural levels. In brief, measures to support the ants are relatively simple and may include one or more interventions: (modifying or limiting use of insecticides, transplanting ant colonies into plantations, providing intra-colony host tree connections (with rope, poles.)pruning trees to reduce fighting between neighboring colonies, providing supplementary ant feeding (sugar, water and sometimes protein) during parts of the season, providing artificial nesting sites to the ants and limiting the action of competing ant species, for example by avoiding clean weeding under host trees, by applying sticky barriers around tree trunks or by chemically or physically controlling undesired species). Using these low cost measures, ants can be maintained in mono-crop plantations in most systems, though mixed cropping will further facilitate ant populations and is a prerequisite in a few cases Kept at high densities, weaver ants may benefit plant production by preying on pest insects, deterring pests physically or deterring them chemically It is a 'low-tech, low cost' methodology.

Weaver ants cause cascading effects to lower trophic levels, decreasing pest populations and their damage, successively resulting in higher crop yields. This is documented in several crops. Further, these ants are comparable in efficiency with alternative control strategies, in some cases even leading to higher yields and at lower costs. Some potential disadvantages may follow; however, drawbacks may be addressed via proper management (ant bites), be of minor importance (the effect of ant nests). In other cases what seems to be a problem at a first glance may turn out as the opposite (effects on pollinators Regardless, as net benefits are found positive effects are likely to outweigh these negatives. There is no doubt that plants can benefit from patrolling ants, but at the same time there is no doubt that some ant species are harmful rather than helpful. Weaver ants serve as a positive thoroughly investigated example. The challenge is to find species that work well in a particular setting and subsequently to develop management facilitating their establishment and persistence. In addition, identification of IPM components compatible with beneficial ant species is needed to supplement their actions. Last, but not least, future prospects may lie within indirect chemical effects of ants on arthropod pests and diseases. These effects are promising and are avenues to be explored to further develop the use of ants in pest control. Ant communities as bio control agents may facilitate the development of sustainability in agriculture.

Effective strategies for farmers in combatting the white-backed plant hopper (WPH) threat

Anantharasa Kishanthan (31st Batch)
Faculty of Agriculture
University of Jaffna

At present, during the *Maha* season of rice cultivation 2023/24, the White-Backed Plant Hopper (WPH) has emerged as a considerable challenge in Sri Lanka's agricultural regions. What was once a minor threat has evolved into a formidable problem, inflicting substantial crop losses on farmers within a short timeframe. In the Northern province, the impact of these pests has been particularly harsh, resulting in the loss of harvests and severe damage to fields. Currently, the presence of this pest is notably observed in the districts of Vavuniya, Mullaitheevu, and Kilinochchi. Research findings highlight the impact on rice cultivation, revealing that about 22,000 hectares across multiple districts have fallen victim to three insect species; WPH, Gray Plant Hopper, and Leaf Curl worm. Notably, among these pests, the WPH has inflicted the most substantial and pervasive damage on crops. The Director General of the Department of Agriculture emphasizes the importance of proper pest identification and awareness creation to effectively control and mitigate the impact of this pest. Timely management strategies can lead to increased yields and alleviate the challenges posed by this agricultural threat.

How to identify WPH?

WPH (*Sogatella furcifera*), predominantly inhabit the stem and leaf of rice. These pests exhibit varying colors, appearing in shades of white, gray, or black. Although their identification may pose a slight challenge, a keen observation of the insects and careful examination of damage will help in effectively recognizing them.

Figure 1: Adult WPH

Figure 2: Nymph and Adult found in stem

During the initial stages of their life cycle, WPH exhibit a distinctive white coloration, which later transitions into shades of gray or black. Typically, adults measure around 3-4 mm in length, featuring a discernible white line along the middle of their thorax. The adults lay eggs in the stems or midribs of leaves. Notably, females tend to possess shorter wings, while males boast longer wings, contributing to the observable differences in their physical characteristics.

How to identify the pest infestation?

They are highly abundant in the early season of rice cultivation. Later in the season, its number decreases. Eggs are laid in plants and they multiply and spread from one plant to another through water. They have

rapid reproductive potential. These pests can multiply their populations significantly under favorable conditions and cause massive damage in a short period of time. When plants secrete a sweet secretion, it attracts insects. Due to the proliferation of insects, they damage the leaves and affect the photosynthesis which reduce the yield.

Figure 3: Dead WPH found in water surface

Figure 4: Completely affected rice plant

When these insects attack rice plants, a noticeable sequence of changes occurs. Initially, the leaves undergo a transformation, turning from green to yellow and eventually it turns brown colour. Interestingly, their peeling skins resemble shredded coconut when they are above water. Notably, in areas with water contact, the insect population tends to be higher. They feed on the juice of rice plants, causing a burn-like effect. Consequently, the affected leaves experience drying and a yellowing of the margins, resembling charred hay. The pests suck the juice from both the rice grains and leaves, resulting in discolored rice. In severe cases, this damage can lead to the complete death of the rice plant. However, the presence of a substantial number of dragonflies in the field suggests a potential natural counterbalance to this insect menace.

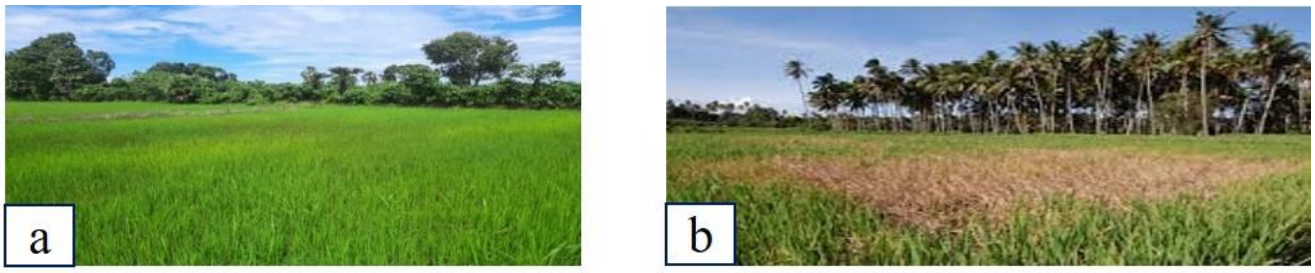

Figure 5: a. Early stage of attack rice field b. Highly affected rice field in kilinochchi

Management of WPH

It is better to control the pest at the initial stage to avoid severe infestation. First, all farmers should be informed about the behavior and impact of this pest attack. Weeds in paddy fields should be destroyed. Nitrogenous fertilizer should be applied at the right time in the prescribed amount to all the fields. Fertilizers should be applied mostly at the base of the rice crop. Avoid mixing pesticides together. Crop rotation. Farmers in the same areas start cultivation at the same time. Early planting of crop. Sustained supply of nutrients required for agriculture. A few biocontrol agents are Phytoseiid mites (egg predator), Coccinellid beetle (predator), *Lycosa pseudoannulata* (spider) and *Cyrtorhinus lividipennis* (mirid bug).

Pesticides recommended by the Department of Agriculture

- Thiocyclime (Hydrogen oxide) 50% SP(Evisect) - 10ml/10Lwater
- Thiomethoxam 25% WG Actara - 3g/10Lwater
- Fibronil 50g /L SC – 15ml/10L water
- Ethiprole 100g /L SC (Cuprix)-15ml/10L water
- Ferrobucalm 500g/ L EC (BPMC, Dozzer) – 35ml/10Lwater

These insecticides work quickly to protect rice plants from WPH damage. Further doubts related to this can be inquired from the relevant agricultural advisory officers of the respective regions. Avoid mixing insecticides with other chemicals, as advised by the Department of Agriculture. Specifically, the Agriculture Department recommends using two insecticides, Curbix and Ethiprole 100 gr/SC, to control WPH damage, and efforts are being made to make these insecticides available promptly. To ensure effectiveness, it's crucial to stick to the insecticides recommended by the Department of Agriculture, as using the wrong ones might not give the desired results.

Sectional Activities - Section A

Webinar 1

The JSA Section A successfully organized a webinar titled **"Writing Scientific Proposals: Necessity and Significance"** on August 27, 2023, at 7:00 PM.

Dr. T. Mathiventhan, Senior Lecturer (Gr. I) in Botany and Dean of the Faculty of Technology at Eastern University, Sri Lanka, served as the resource person. Dr. (Ms.) Nahmagal Krishnapillai, Senior Lecturer Gr. I in the Department of Botany, Faculty of Science at the University of Jaffna, moderated the workshop.

Approximately fifty participants attended this informative session.

Plants in Landscaping Architecture

Dr G. Rajkumar,
Dept. of Botany, Faculty of Science,
University of Jaffna.

Landscape comprises the visible features of an area of land, including the physical elements of landforms, living elements of land cover, human elements, abstract elements. Landscapes may be natural or man-made.

Figure 1:Natural landscape

Figure 2:Man made landscape

Types of landscapes

- Mountain landscapes- Mountains with narrow rivers, forests, villages & steep roads.
- Flat landscapes- Flat lands with wide rivers, farms, cities & motorways.
- Coastal landscapes- We can see cliffs, the sea & tourist towns.
- Desert landscapes- The places without plants or water. Present only some animals such as camels.
- Submarine landscapes- They are at the bottom of the seas & oceans. Fish, some mammals & aquatic plants live in submarine habitats.
- Rural landscapes- In rural landscapes there are many cultivated lands. Small number of houses are present. People grow vegetables, fruits & keep animals.
- Urban landscapes- There are many houses & buildings such as schools, parks, cinemas, supermarkets, hotels etc.

What is the landscaping architecture?

It is the design of outdoor areas, landmarks & structures to achieve environmental, social- behavioral or aesthetic outcomes. A practitioner in the profession of landscape architecture may be called as landscape architect. Countries have significant influence on the practice of landscape architecture today. Landscaping is both science & art and requires good observation & design skills.

Basic elements of landscape architecture

Five basic elements of landscape architecture are: Color, Form, Line of sight, Scale or balance, Texture.

Form

In landscape architecture terminology, form is the shape of the objects in a landscape. It may be squares, circles, triangles or irregular shapes. Shape of the plants- upright, oval, columnar, spreading, broad spreading, weeping

Color

Color theory is often used in landscape architecture by dividing the color spectrum into 4 categories. Primary- reds, yellows, blues; Secondary- greens, violets, oranges; Tertiary- mixtures of the primary & secondary categories; Neutral- white, grays & silvers. Usually in landscaping architecture match warm colors to warm colors. (red, yellow & orange) & cool colors to cool colors (blue, purple & green).

Figure 3: Colors for landscaping

Line of sight

The line of sight is the viewer's eye movement or flow being influenced by the arrangement of plants & their borders. Eye movement is unconsciously affected by the way plant groupings fit or flow together.

Scale & balance

It is the visual relationship of the landscape components relative to size. Equal sizes on both sides of the landscape give the balance.

Texture

Texture is the touch or visual surface quality of an object or a plant. The texture of a plant's foliage or bloom can be viewed as coarse, medium or fine. Usually mix plants with larger leaves (coarse texture) & smaller leaves (fine texture) to avoid monotony in a plant bed & to add visual interest.

Types of plants used in landscaping architecture

Annuals are plants which complete their life cycle in one season or one year. Ex: Petunia, Verbena, Geranium, Marigold, Vinca, Zinnia.

Biennials are plants which take two years to complete its biological life cycle. Ex: Sweet William, foxglove etc.

Perennial plants are plants which live more than two years. Ex: Peony, Salvia, Hosta, Black-Eyed Susan, Daylily, Delphinium, Yarrow achillea

Shrubs

Shrubs give structure & backbone to the landscape & many of it bloom with beautiful flowers, berries, colorful leaves & others have sweet scents.

Climbers & creepers

Climbers are very important ornamental plants & are commonly used on walls, arches & pergolas. Bare walls can be most effectively decorated by growing colorful climbers. Creepers are plants which unable

to climb vertically on their own because of their weak stems. They are important plants which add beauty, color & striking way of fragrance in gardens & artificial structures.

Succulent plants

They are very popular among gardeners, amateurs & hobbyists who are used adorn sunny situations to gardens, houses, window sides & rock gardens. They thrive best in sunny situations & are light loving. They need little care except when actively growing.

Indoor plants

They are used to beautify the areas inside the house. It is less costly to decorate the interior of the rooms. Fashion of the growing house plants become universally popular during the past three or four decades, so definitely it is not a new art. They can be placed in open zones, shade of a tree in front of a house, verandah of a house, living room & drawing room etc.

Ornamental palms

They are used extensively in landscaping architecture due to their beautiful trunk, leaf color, shapes, plant structure & growth habits. Based on the trunk & its deferent manifestation, palms can be divided in to four types. Such as solitary palms, clumping palms, branching palms & trunkless palms. Suitable for decorate conservatories, verandah, stair-cases.

Bulbous plants

Ornamental bulbous plants are the plants which have specialized modified underground stem structure to overcome unfavorable environmental conditions. Modified stems include bulbs, tubers, corms, rhizomes etc. They are used in gardening due to their attractive blooming.

Advantages of landscaping architecture

Give attraction & high value to gardens. Create a healthier home by filtering pollutants & providing clean air. Provide privacy & decrease stress levels of people. Local noise & heat reduction. Control of erosion. Reduction of evaporation & soil degradation. Trees, shrubs & flowers create habitats for beneficial wildlife.

29th Annual Session and Installation of 30th Executive Committee…








ஓர்க்கிட்களும் அவற்றின் ஆபத்துநிலைமையும்

செல்வி.அ.ஆன் ஏஞ்சல் & திருமதி.நி.ரவிமன்னன்
தாவரவியல் துறை
விஞ்ஞானபீடம்
யாழ்ப்பாணப் பல்கலைக்கழகம்

இலங்கையில் மாத்திரம் காணப்படும் புதிய ஓர்க்கிட் (Orchid) இனத்திற்கு 2017 ஆம் ஆண்டு தந்தங்களிற்காக கொல்லப்பட்ட காட்டு யானை ஒன்றின் பெயர் சூட்டப்பட்டுள்ளது. இலங்கையானது ஏறக்குறைய 6000 யானைகளின் தாயகமாக விளங்குகின்றது. கம்பீரமான பாலூட்டிகளான இவை அவற்றின் மகத்தான மத, கலாச்சார மற்றும் சமூக முக்கியத்துவத்திற்கான சின்னமாக திகழ்கின்றது. IUCN சிவப்பு பட்டியலில் அழியும் ஆபத்தில் உள்ளதாக பட்டியலிடப்பட்ட ஆசிய யானையின் (*Elephas maximus*) இலங்கையின் கிளையினங்கள் அன்பு மற்றும் பயம் இரண்டையும் தூண்டுகின்றது. மனித யானை மோதல்கள் தடையின்றி தொடர்கின்றன. வசிப்பிட இழப்பு மற்றும் வேட்டையாடுதல் இங்குள்ள யானைகளின் எண்ணிக்கையை அழுத்துவதற்கு இரட்டைக் காரணங்களாகும். தாவரவியலாளர்கள் குழு அதன் தந்தத்திற்காக கொல்லப்பட்ட ஒரு பழம் பெரும் யானையின் பாரம்பரியத்தை நிலைநிறுத்த தனித்துவமான வழியைக் கண்டறிந்துள்ளது அதன் விளைவாக புதிதாகக் கண்டறியப்பட்ட ஒரு ஓர்க்கிட் இனத்திற்கு அதன் பெயர் சூட்டப்பட்டுள்ளது.

ℸhytotaxa இதழின் மார்ச் 25 பதிப்பின் ஒரு கட்டுரை இலங்கையில் மட்டுமே காணப்படும். புதிய மலரை *Pteroceras dalaputtuwa* என்று விபரிக்கின்றது. இது கல்கமுவாவின் தலபுட்டுவாவின் பெயரால் பெயரிடப்பட்டது. இது மிகப்பெரிய தந்தங்களைக் கொண்ட ஒரு காட்டு யானையாகும். ஷஷதல்புட்டுவா ஆர்க்கிட்" (Dalaputtuwa orchid) என்பது யானையின் பெயரால் பெயரிடப்பட்ட முதல் மலர் ஆகும். இலங்கையின் பல்லுயிரியலைப் பாதுகாப்பதற்கான மேம்படுத்தப்பட்ட பாதுகாப்புக் கொள்கைகளின் அவசியத்தைப் பற்றி பொதுமக்கள் மற்றும் அரசாங்கத்திற்கு தெரியப்படுத்துவதே இந்தப் பெயர் தெரிவுக்கான காரணமாகும். இவை முதன் முதலில் 2014ல் இரத்தினபுரி மாவட்டத்தில் உள்ள குடேவா வனப்பகுதியின் ரத்கங்கா பகுதியில் கண்டுபிடிக்கப்பட்டன. ஆராய்ச்சியாளர்கள் குழு புதிதாக கண்டுபிடிக்கப்பட்ட பூக்களின் மாதிரிகளை, பதப்படுத்தி பாதுகாக்கப்பட்டு வந்த பூக்களுடன் ஒப்பிட்டு அவற்றின் வகைப்பிரித்தல் அடையாளத்தை உறுதிப்படுத்தியது. (taxonomic identify) புதிய தாவரங்களின் மாதிரிகள் பேராதனை தாவரவியியல் பூங்காவில் வைத்து பாதுகாக்கப்பட்டு வருகின்றது சிறிய தலப்புட்டு ஓர்க்கிட் 10mm நீளமும் 5mm அகலமும் கொண்ட பகுதியளவு திறக்கப்பட்ட பூவாகும் குறுகிய மஞ்சள்

நிற இதழ்கள் மற்றும் ஸ்பர் (Spar) எனப்படும் நீளமான செவ்வக வெற்று நீட்டிப்புக்களை (hollow extension) கொண்டது. இது 2014ஆம் ஆண்டில் ஒரு ஆய்வின் போது கண்டுபிடிக்கப்பட்டது. மற்றும் அவ்வப்போது அவதானித்த பின்பு இது ஜூன் பிற்பகுதியிலிருந்து செப்டம்பர் வரை பூக்கும் என்று ஆராய்ச்சியாளர்கள் கண்டறிந்தனர். அத்துடன் இத்தாவரம் மிக நீண்ட வேர்களைக் கொண்டுள்ளது. அவை 14-22 cm வரை வளரக்கூடியது. இவை பொதுவாக டிப்டெரோகார்பஸ் (Dipterocarpus) குடும்பத்தைச் சேர்ந்த உயரமான வன மரங்களுடன் இணைந்து வளரக்கூடியவை. தலபுட்டுவ என்பது இரத்தினபுரியில் உள்ள குடாவா (kudawa) வனப்பகுதிக்கு மட்டுப்படுத்தப்பட்டதாக நம்பப்படுகின்றது.

அங்கு ஆராய்ச்சியாளர்கள் சுமார் 20 தாவரங்களை மட்டுமே கண்டுபிடித்துள்ளனர். ஆகையால் இத்தாவரங்கள் மிகவும் அருகிவரும் ஆபத்தை எதிர்நோக்கியுள்ள தாவரங்களின் பட்டியலில் (Critically Endangered) சேர்க்கப்பட்டுள்ளது. புதிய ஓர்க்கிட் இனமானது பிலிப்பைன்ஸின் ஒரு இனமான *Pteroceras phillippinense* உடன் நெருங்கிய ஒற்றுமையைக் கொண்டுள்ளது. ஆனால் இது முற்றிலும் வேறுபட்டதாகக் கருதப்படுகின்றது.

Pteroceras என்ற சாதிப் பெயரானது "pteron" மற்றும் "keras" எனப்படும். கிரேக்க சொற்களில் இருந்து பெறப்பட்டது. அதாவது முறையே ஷஷஇறக்கை" மற்றும் ஷஷகொம்பு" என்பது இவற்றின் பொருளாகும். *Pteroceras* சாதியானது இந்தியா முதல் இலங்கை வரை அண்ணளவாக 21 தாவர இனங்களை உள்ளடக்கியுள்ளது. இந்த வகையில் பெரும்பாலானவை என்றும் பசுமையான மழைக்காடுகளின் (Evergreen rainforest) தாழ்நிலங்கள் (lowlands), மலைகள் (hills) மற்றும் மேல் மலையப் பகுதிகளில் (Upper mountain region) காணப்படுகின்றன. இவற்றின் தண்டுகள் பொதுவாக கிளைகள் அற்றது, குட்டையானது அத்துடன் உரோமங்களற்றது மற்றும். இவை நிமிர்ந்து வளரக்கூடியவை. இலைகள் காம்பற்றது சதைப்பற்றானது. இலங்கையில் இதுவரை *Pterocers* சாதியை சேர்ந்த ஒரே ஒரு தாவர இனம் மட்டுமே கண்டறியப்பட்டது அதாவது *Pteroceras virdiflorum.* இது இலங்கையில் பெரிதும் அறியப்படாத இனமாகும். குறிப்பாக வரைபடங்களில் இருந்தே இதைப் பற்றிய தகவல்கள் கிடைக்கப்பெற்றன. ஆகையால் இத்தாவரம் 2012ம் ஆண்டு IUCN சிவப்பு பட்டியலின் தேசிய பாதுகாப்பு நிலைகளில் அழிந்து விட்ட இனமாக அறிவிக்கப்பட்டது.

முற்றிலும் புதிய ஓர்க்கிட் இனத்தைக் கண்டுபிடிக்கும் போது ஆராய்ச்சியாளர்கள் *Pteroceras virdiflorum* என்ற பூவினை மீண்டும் கண்டுபிடித்தனர் கிட்டத்தட்ட 150 ஆண்டு காலமாக இத்தாவர இனத்தின் மாதிரிகள் எங்கும் காணப்படவில்லை. இது ஒரு எபிபைடிக் (Epiphytic) தாவரமாகும். குட்டையான சதைப்பற்றுள்ள தண்டுகள், இலைகள் 5 cm – 7cm அகலமும் கொண்டது. மலர்கள் பிரகாசமான வெளிர் பச்சை நிறத்துடன் இருக்கும். இவை 0.28 cm நீளமும் 0.24 cm அகலமும் கொண்டது. பூவின் அல்லிகளும் புல்லிகளும் வேறுபட்டவை. பொதுவாக அல்லிகள் புல்லிகளைவிட சிறியதாகக் காணப்படும். பொதுவாக இத்தாவரங்கள் ஆகஸ்ட் இடைப்பகுதியிலிருந்து டிசம்பர் பிற்பகுதி வரை பூக்கக்கூடியவை. இவை பெரும்பாலும் இலைக்கன் (lichen) மற்றும் பாசி மூடப்பட்ட மரத்தின் தண்டுகளில் ஏறக்குறைய 90% நிழலின் கீழ் வளரக்கூடியவை. இவை இலங்கையில் சிவனொளிபாத மலைத்தொடரிலும் மஸ்கெலியாவில் உள்ள மோரே தோட்டத்திலும் (Moray Estate) அதிகளவாகக் காணப்படுகின்றது.

ஓர்க்கிட்கள் இலங்கையின் மிகப்பெரிய மலர் குடும்பங்களில் ஒன்றாகும். 191 அறியப்பட்ட இனங்கள் உள்ளன. ஆவற்றில் 58 இனங்கள் எமது நாட்டிற்கு சொந்தமானவை அவை வாழ்விட அழிவு மற்றும் நேரடி சுரண்டல் அகியவற்றால் அச்சுறுத்தப்படுகின்றன. மக்கள் அலங்கார செடிகளாக பயன்படுத்த ஓர்க்கிட்களை சேகரிக்கின்றனர். ஓர்க்கிட்கள் வளியிலுள்ள ஈரப்பதன் போன்ற சுற்றுச்சூழல் மாற்றங்களுக்கும் உணர்திறன் கொண்டவை எனவே காலநிலை மற்றம் மாசுபடுதல் ஆகியவை அவற்றின் உயிர்வாழ்வை அச்சுறுத்துகின்றன.

New Memberships of Section B of JSA – 2023/24

S. No.	Name	Affiliation	Membership type
1.	Mrs. Kasthuri Kajeevan	Faculty of Agriculture, University of Jaffna	Life Membership
2.	Miss. Yanushiya Jeganathan	Faculty of Agriculture, University of Jaffna	Life Membership
3.	Ms. Vijitha Vikneswaran	Faculty of Technology, University of Jaffna	Life Membership
4.	Ms. Varnika Kalaichelvan	Faculty of Technology, University of Jaffna	Life Membership
5.	Mrs. Banusha Eswaran	Faculty of Technology, University of Jaffna	Life Membership
6.	Mr. Gnanasothy Alfred Canistus	Faculty of Technology, University of Jaffna	Life Membership
7	Mrs. Priyatharshini Pinthujan	Faculty of Technology, University of Jaffna	Life Membership
8.	Ms. J.M.H.S. Jayasekara	Faculty of Agriculture, University of Jaffna	Life Membership
9.	Ms. Sinthuja Lemual Panoshan	Faculty of Technology, University of Jaffna	Life Membership
10.	Ms. Janarny Ganesamoorthy	Faculty of Technology, University of Jaffna	Life Membership
11.	Mr. Y.M. Vithanage	Faculty of Technology, University of Jaffna	Life Membership

Sectional Activities - Section A

Webinar 2

JSA Section A successfully organized a second webinar titled **"Active Learning Tools for Online Classrooms"** on November 1, 2023, at 7:00 PM (Sri Lanka time) and 9:30 AM (EDT/EST).

Dr. Alvaro Ortiz Lugo, from the Society of Industrial and Applied Mathematics (SIAM) Education Committee and Assistant Professor of Mathematics in the College of Arts & Sciences at the University of Cincinnati, USA, served as the resource person.

Dr. S. Mayuran, Lecturer in Mathematics at the Faculty of Science, University of Jaffna, moderated the workshop.

Approximately thirty-five participants actively engaged in this insightful session.

In this event, final year (4th year and 3rd year) students, demonstrators and assistant lecturers from Faculty of Science, University of Jaffna actively participated as beneficiaries.

New Memberships of Section C of JSA – 2023/24

S. No.	Name	Affiliation	Membership type
1.	Ms K Gowthamy	Faculty of Allied Health Sciences, UoJ	Life Membership
2.	Ms S Piraveena	Faculty of Allied Health Sciences, UoJ	Life Membership
3.	Dr.N.J.Q.Tharshanodayan.	International Institute of Health Sciences, Wattala	Life Membership
4.	Mr S Malarvarnan	Faculty of Allied Health Sciences, UoJ	Life Membership
5.	Mr R Tharsan	Faculty of Allied Health Sciences, UoJ	Life Membership
6.	Mr S Shayuthan	Institute of Medical Sciences, Manipay	Life Membership
7	Ms L.Lakshika	Faculty of Allied Health Sciences, UoJ	Life Membership

Sectional Activities – Section C

1. Yoga program

A yoga program was conducted for students of Kokuvil Hindu College, Jaffna on 07.07.2023. The trainer was Dr.K.Ketheeswaran, Senior Lecturer, Unit of Sports Science, University of Jaffna. Total of 150 students, ranging from Grade 6 to A/L, participated in the event. The program included simple yoga exercises and breathing exercises. The students were also given the opportunity to practice the exercises themselves with the support of the trainer.

2. Journal Club

A journal club was held for medical students via Zoom on 10.06.2023. The speaker was Dr. R. Kesavan, Consultant Community Physician. The topic was "Climate Change and Mental Health: A Causal Pathways Framework." This journal club was based on the original article, "Climate Change and Mental Health: A Causal Pathways Framework," was authored by Helen Louise Berry, Kathryn Bowen, and Tord Kjellstrom, published in Int J Public Health (2010) 55:123–132. Eighty medical students from the 42nd and 43rd batches participated in the session.

3. TV Shows

Behalf of JSA Section C, the members attended the TV shows.

3.1 Ms Sasrubi Sathees (Secretary of JSA section C) attended DAN TV's 'Nalanthaana' program, delved into evidence-based approaches for Autism management of "Children with Autism" at their own houses. The link to such show:
https://youtu.be/V8ReaFPl_GE

3.2 Dr.K.Ketheeswaran (Committee Member of JSA Section C) attended DAN TV's Nalanthaana program on making awareness on sports activities among children. https://fb.watch/mi6KSjMlF_/?mibextid=2Rb1fB

3.3 Ms Sasrubi Sathees (Secretary of JSA section C) attended DAN TV's 'Nalanthaana' program, on "Playing with children aged birth to 2 years @ their home environment"

The link to such show:
https://www.facebook.com/100063803552353/posts/pfbid0MQqneeB2f8LXKNiAHBDZJrbrGU4ZJimzrxVN5UeBuqAaqQ4AMyp1JpM69y3NyuYWl/?d=w&mibextid=qC1gEa

4. Spiritual Speech

Dr. N. Parameswaran (Chairperson of JSA section C) delivered a speech on "Spirituality and Health" as a special guest at the Nallur Temple festival on 04.09.2023. His insightful talk highlighted the profound connection between spiritual practices and overall well-being, emphasizing how spiritual engagement can positively influence mental and physical health. The event was well-received by hundred attendees, adding a meaningful dimension to the festival celebrations.

5. Traditional food awareness program

The Jaffna Science Association Section C, in collaboration with the Unit of Siddha Medicine of University of Jaffna, successfully conducted a "Traditional Food Awareness Program" on 27.08.2023 at Nallai Thirugnasampanthar Hall, Nallur Kandasamy Kovil Premises. The event included the distribution of a free traditional healthy drink, "Kool." Students from Faculty of Allied Health Sciences of University of Jaffna University also provided health education to the attendees. Nearly 100 members of the public enjoyed the Kool and participated in the health education session, gaining valuable insights into traditional nutrition and wellness practices.