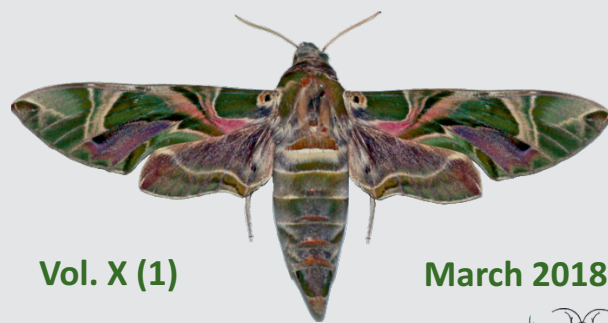


NBAIR Newsletter



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ICAR–National Bureau of Agricultural Insect Resources



Flying high @ 25....

The Project Directorate of Biological Control came into existence in 1993, later evolved into the National Bureau of Agriculturally Important Insects and further into the National Bureau of Agricultural Insect Resources. Thus, 2018 is the Silver Jubilee year of NBAIR. The official launch of the silver jubilee celebrations happened on the Yelahanka campus of NBAIR on 24 January 2018, which was inaugurated by the former Directors Dr R.J. Rabindra, Dr N.K. Krishna Kumar and Dr Abraham Verghese. A video film was screened on the journey of this institute during the last 25 years with vivid glimpses of its formation, its achievements and the persons who worked incessantly for the progress of the organisation. The silver jubilee logo (*see below*) was unveiled by Dr Rabindra.



The highlight of the programme was the presence of and participation by school students. Our intent was to create awareness amongst school students on the “insect world”. Towards this, quiz and elocution competitions and an

exhibition were organised. Dr Prashanth Mohanraj, former Head of Division of Insect Systematics, addressed the students and spoke on the “Diversity of insects”.



Dr Rabindra lighting the lamp

A wide range of activities and programmes have been planned for this year as part of our silver jubilee celebrations. These include, NBAIR “Employees' Day” in May; “Farmers' Mela” in the southern states during the months June to August; an open day for the general public to showcase NBAIR technologies in November and the curtain closer would be a one-day “Symposium on Insect Germplasm” in the month of December 2018. During the last 25 years, this institute has worked on its committed mandates and emerged as a forerunner in the fields of taxonomy, biological control and molecular entomology.



Dr Mohanraj delivering a talk



Quiz winners – Florence English High School

At 25, we are aiming high and stepping into novel areas of research focussing on insect genomics and nanotechnology and simultaneously channelising our efforts to transfer NBAIR technologies to companies and farmers to bring maximum agricultural area under the non-chemical pest management mode.

Chandish R. Ballal
Director

Research Highlights

New host record

Acanthormius indicus Gupta & Quicke (Braconidae: Lysiterminae: Lysitermini) (Fig. 1), a gregarious larval parasitoid of a bagworm moth caterpillar, has been described from south India. Despite being frequently collected in malaise and ultraviolet light traps, members of the Lysiterminae, especially Lysitermini, are poorly known biologically. The only previously published host record for *Acanthormius* is *Odites* (Lepidoptera: Depressariidae) harbouring *A. dentatus*. The new host association discovered in the present study adds a new host family record for this wasp genus.



Fig. 1: *Acanthormius indicus*

First record

The naticoline bug, *Empysarus depressus* (Fig. 2), has been recorded for the first time in Pune and Bengaluru.

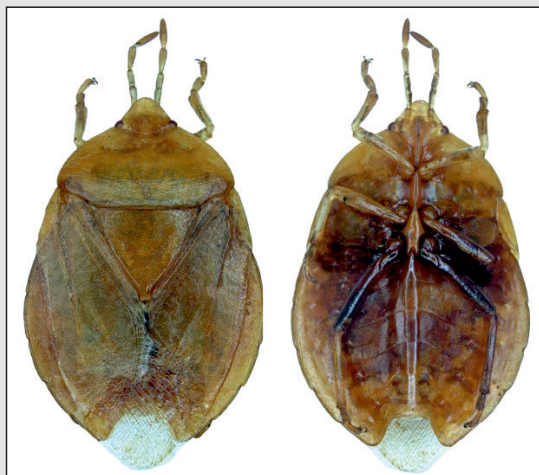


Fig. 2: *Empysarus depressus*

Pink bollworm status

In surveys conducted to assess the severity of pink bollworm on cotton, the locule damage was observed to be 64.2%, 50.4% and 61.5% in Telangana, Maharashtra and Tamil Nadu, respectively. The number of larvae per boll varied between 0.47 (Tamil Nadu) and 1.85 (Maharashtra) and the number of exit holes per boll ranged between 1.06 (Tamil Nadu) and 1.42 (Telangana).

Novel technique for EPN delivery

A tree-banding technique (Fig. 3) has been developed to deliver entomopathogenic nematodes (EPN) to control the defoliating caterpillar of common banded awl butterfly on pongamia tree (*Millettia pinnata*).



Fig. 3: Tree-banding for EPN delivery

Emerging white grub species in sugarcane and groundnut

White grubs cause serious losses in sugarcane, groundnut, potato, arecanut, ginger and soybean crops among others. In recent surveys, a dynastine species, *Phyllognathus dionysius*, was found to be predominant in sugarcane in Kolhapur region of Maharashtra, and in groundnut in Junagadh of Gujarat and Kadapa of Andhra Pradesh. In addition, a melolonthine species, *Maladera bombycina*, was found to be predominant in groundnut in Tirupati region of Andhra Pradesh. Regular monitoring and surveillance are a must from management point of view.

69th Republic Day celebrated at NBAIR

The 69th “Republic Day” was celebrated on 26 January 2018 at NBAIR headquarters. After hoisting the national flag, Dr B. Ramanujam, Director in-charge, addressed the staff and reminded them that India stands united because of the strength of its constitution. Dr T.M. Shivalingaswamy, farm in-charge, unfurled the national tricolour on Yelahanka campus of NBAIR.



NBAIR scientists receive “Certificate of Merit and Appreciation”



Drs S.K. Jalali, T. Venkatesan, M. Mohan, K. Subaharan, G. Sivakumar and K. Selvaraj were individually awarded with a “Certificate of Merit and Appreciation” by Mr C. Kathiravan, IAS, Collector, Krishnagiri district of Tamil Nadu, during the Republic Day celebrations on 26 January 2018 for creating awareness on ecofriendly management of crop pests and diseases in Krishnagiri district.

Awareness programme on rugose spiralling whitefly



An awareness programme on rugose spiralling whitefly (RSW), *Aleurodicus rugioperculatus*, was organised by NBAIR in coordination with the Department of Horticulture, Government of Karnataka at Krishi Vigyan Kendra, Kankanady in Mangaluru on 6 February 2018. The programme was inaugurated by Dr Chandish R. Ballal, Director, NBAIR. An extension folder on the management of RSW on coconut was released by the dignitaries during the occasion. Nucleus culture of *Encarsia guadeloupae* supplied by Coconut Research Station, Tamil Nadu Agricultural University, Aliyarnagar (NBAIR's project partner) was handed over to the farmers who participated in the programme.

The programme was coordinated by Drs K. Selvaraj, T. Venkatesan and A.N. Shylesha of NBAIR, with funds from the Coconut Development Board-sponsored project. Dr S.K. Jalali (Head, Division of Genomic Resources, NBAIR), Dr Shivakumar Magada, (Professor and Head & Programme Coordinator, KVK, Kankanady), Dr Ankita Gupta (Scientist, NBAIR) and Mr H.R. Naik (Deputy Director of Horticulture, Dakshina Kannada) also participated in the programme.

NBAIR scientists at International IPM Symposium

Dr Chandish R. Ballal and Dr M. Nagesh attended the “IX International IPM Symposium: Improving Health, Environment and Global Sustainability” in Baltimore, Maryland, USA, from 19–22 March 2018. Dr Ballal co-organised a session on “Organic agriculture with bio-intensive pest management as a means to adapt/mitigate climate change” and delivered a talk on “Biointensive IPM in rice – Success stories” and Dr Nagesh on “Role of EPN in IPM”.



Patents granted and filed

Indian patents granted

Amorphous formulation of *Pochonia chlamydosporia* as bionematicide and a method of preparing the same (Primary innovator: Dr M. Nagesh).

Invert-emulsion formulation of a fungal antagonist for biological management of plant diseases (Primary innovator: Dr S. Sriram).

International patent filed

A reusable charge transfer based agro-gel (PCT/IN2018/050292) (Innovators: Santanu Bhattacharya, Subham Bhattacharjee, Dipen Biswakarma & Deepa Bhagat).



Promotions

Dr Deepa Bhagat has been promoted to Principal Scientist w.e.f. 24 August 2016.

Dr A. Kandan has been promoted to Principal Scientist w.e.f. 26 February 2017.

Dr R. Gandhi Gracy has been promoted to Senior Scientist w.e.f. 8 January 2017.

Welcome!

Mr Alok Kumar, Administrative Officer, joined NBAIR on 3 January 2018 on transfer from ICAR Research Complex for Eastern Region, Patna.

Awards & Recognitions

Dr P. Sreerama Kumar

Certificate of Appreciation—Cleanest Laboratory of NBAIR, Hebbal Campus, NBAIR, 24 January 2018.

Best Silver Jubilee Logo Award for the logo designed for NBAIR's silver jubilee (1993–2018) celebrations, NBAIR, 24 January 2018.

Associate Editor of SIP Newsletter, appointed by the President, Society for Invertebrate Pathology, USA, February 2018.

Dr M. Mohan

Best Research Worker Award for 2017, NBAIR, 24 January 2018.

Dr Mahesh Yandigeri

Certificate of Appreciation—Cleanest Laboratory of NBAIR, Yelahanka Campus, NBAIR, 24 January 2018.

Best Poster Award, National Conference on Organic Waste Management for Food and Environment and Security, ICAR–Indian Institute of Soil Science, Bhopal, 8–10 February 2018.

Dr K. Sreedevi

Edita David Memorial Award for 2017–18 from Applied Zoologists Research Association, Banaras Hindu University, Varanasi, 9–11 February 2018.

Dr R. Gandhi Gracy

Best Oral Presentation Award (Second Prize), International Conference on Biodiversity – Strategies for Conservation and Sustainable Utilization, Ethiraj College for Women, Chennai, 1–2 February 2018.

Mr H. Jayaram

Best Technical Worker Award for 2017, NBAIR, 24 January 2018.

Ms P. Anitha

Best Administrative Worker Award for 2017, NBAIR, 24 January 2018.

Mr Ramakrishnaiah

Best Supporting Staff Award for 2017, NBAIR, 24 January 2018.

Selected Publications

Amala, U. & Shivalingaswamy, T.M. 2018. Trap-nest diameter preference of *Megachile lanata* (Hymenoptera: Megachilidae). *Journal of Entomological Science*, 53: 96–98.

Gupta, A. & Quicke, D.L.J. 2018. A new species of *Acanthormius* (Braconidae: Lysiterminae) reared as a gregarious parasitoid of psychid caterpillar (Lepidoptera: Psychidae) from India. *Zootaxa*, 4388(3): 425–430.

Ramya, R.S., Srivastava, C. & Subramanian, S. 2018. Monitoring of phosphine resistance in Indian populations of *Tribolium castaneum* (Herbst) from stored wheat. *Indian Journal of Entomology*, 80: 19–23.

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