Project title	Registration and commercialization of the most effective biopesticide formulation using the seed extract of Hydnocarpus pentandra for the management of isect pests of agriculture and forestry importance
Principal Investigator	Dr. N. Senthilkumar
Co-Investigators	Dr. S. Murugesan
Project duration (Start & End)	3 years: 2016-2019
Objectives	• Isolate and identify the most effective bio pesticide components from the seeds of *H. Pentandra*. • Develop the biopesticide formulation using the most effective active ingredients with suitable stabilizers, surfactant and adjuvant. • Standardise cost effective downstream process and large scale production. • Evaluate its efficacy against selected forestry and agriculturally important insect pests. • Generate field efficacy and toxicology data as per CIB/RC requirements and as per CIB/RC protocols in collaboration with other forest research centers.
Summary/Achievements	Natural distribution of *Hydnocarpus pentandra* in Southern Western Ghats of Tamil Nadu, Karnataka and Kerala was surveyed, collected seeds, processed and extracted oil. Saponifiable free fatty acids separated from the seed oil were further separated into saturated and unsaturated free fatty acids. It is found that seed oil contains 93% triglycerides. The triglycerides were converted into fatty acid methyl esters (FAME) and identified 14 bioactive compounds through GC MS analysis, of which hydnocarpic and Gorlic acids were found to be more. Seed oil showed antagonist activity against human fungal and bacterial pathogens.
Funding agency	BIRAC-DBT