

## **Project Update: December 2013**

The project began on 9th May 2013. May was used for the preparatory phase of the project. The pilot work was done in June 2013 and a total of seven places were selected and the field work including collection of beetles and data began from June 2013.

<b>Sr. No.</b>	<b>Places</b>	<b>GPS Coordinates</b>
1.	Pandur, Kudal	N 15° 04.4' 44" E 73° 43.5' 40"
2.	Zarap, Kudal	N 15° 56.3' 52" E 73° 44.5' 45"
3.	Malgaon, Sawantwadi	N 15° 51' 7.32" E 73° 47.6' 21"
4.	Matond, Vengurle	N 15° 51' 7.59" E 73° 43' 5.58"
5.	Chafekhol, Malvan	N 16° 07' 43.24" E 73° 32' 56.72"
6.	Chunvare, Malvan	N 16° 11' 55.70" E 73° 34' 24.85"
7.	Jamsande, Devgad	N 16° 24.1' 40" E 73° 25.1' 50"

The schedule for collection visits was set and followed for every month. Every site was visited once in season. The light traps using mercury light bulb and UV light tube were set in open fields and nearby forest. The pitfall traps were set in both agricultural fields and forest. The individual beetles of Scarabaeidae family were collected and a separate record has been maintained for every type of trap.

The two phases of seasonal collection of monsoon and post monsoon finished in November 2013. The third phase of winter collection started in December 2013.

## **Methodology**

### **Collection**

The collections are done by using Light traps, hand picking and pitfall traps. The collections of the beetle are preserved in collection department of Bombay Natural History Society, Mumbai. Most of the beetles are preserved dry. The identification of the beetles was done simultaneously.



**Mercury Bulb Light Trap**

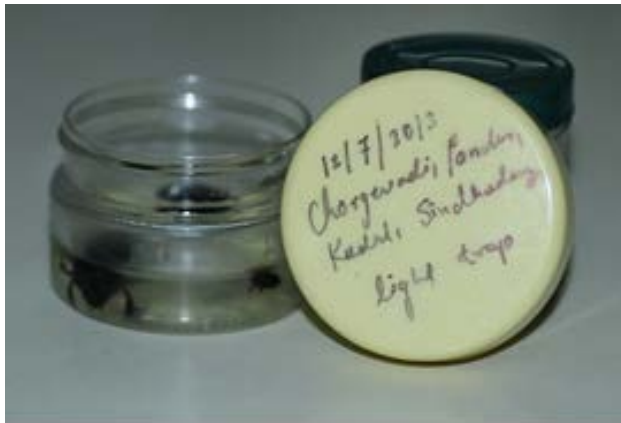


**UV tube Light Trap**

**Pit Fall Trap**



**Insect Specimen Preservation and Data Feeding**



**Wet Preservation of Specimens**



**Dry Preservation of Specimens**

### **Interaction with Community, Awareness and Guidance**

The local farmers of the selected regions were interviewed and the information about their cropping pattern and use of fertilizers as well as sprays were gathered. People from these regions were informed about the project, the beetle family and sustainable farming and asked to follow the same.

The local Agriculture Department of Indian Government was informed about the project and the officials have shown interest in supporting it.



**Group of local farmers members at Pandur**

### **Results**

During the collection, 336 beetles of Scarabaeidae family and 42 species have been collected. The mercury light trap was found to be more effective than UV light trap and pitfall light trap. The flight intercept trap was found to be inconvenient in monsoon seasons as the region receives high precipitation and due to the windy weather of the region.

Out of these seven regions, local farmers of Pandur, Zarap, Malgaon, Matond, Chunavare and Jamsande have shown interest in sustainable farming. In Pandur, Malgaon, Zarap and Chunvare farmers have already started performing the practice. The 13 farmers in Pandur have formed a group for sustainable farming and started growing crops by using organic manure. They have also stopped the use chemical pesticides.

An integrated plan for training farmers for sustainable farming is proposed by the government authorities and planned to be implemented from January 2014. This will become an added advantage to the project as it will reach more people through this support. The officials have agreed to support such initiatives in all possible ways. The direct support for farmers performing sustainable agriculture will be extended.

### **Discussion**

The field visits for collection of beetles were carried out extensively to cover every possible habitat of the region. From the study to date it is observed that the species diversity of Scarabaeid beetles was more during pre monsoon and monsoon season and decreased gradually. In the regions of chemical farming, the species diversity and number of individuals declined drastically during dry seasons, whereas in regions of organic or traditional farming it declined gradually.

As the project is getting good support from locals and government authorities the community involvement of the project is going to broaden in forthcoming months.

### **Next Phases**

The site visits and data collection will continue until the end of May 2014. The awareness programme for students and local farmers will be designed and implemented in this phase. Data compilation and analysis will be done simultaneously. Report writing will be done in June 2014.