## SDC 2019 Annual Meeting Abstracts

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## Lessons from the search for Sarihan.

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Title: Can we reverse extinctions of wild Silkworms in India? :

There is a decline in tasar-silk insects (A.mylitta-Drury) and silk-cocoon production in tropical forests over the past five years. Daba-BV, a semi-domesticated tasar-silkworm race, is dominant today, with systematic introduction by the Indian Government since the 1960s. The near/full extinction of other indigenous eco-races of tasar-silkworms represents loss of genetic diversity and locally-adapted insect populations with unique characteristics and commercial value. Their extinctions have adversely affected livelihoods of forest-dwellers who gather and sell cocoons. Government initiatives to conserve eco-races (Railly, Sarihan, Laria and Sukinda) have been disappointing, and fraught with questions over conserving eco-races and in-situ versus ex-situ conservation methods.

We empirically studied impacts of Daba-BV introduction on three eco-races and their natural habitats, also conducting focus-group-discussions with rearers, NGO-practitioners and government-officials. We examined cocoons to ascertain disease-loads in different eco-races. Modal in Odisha and Railly in Bastar survive within inaccessible forests. Sarihan was different; on the verge of extinction with no live reports in identified rearing-zones. Our research reports results from our search for Sarihan, to trace living specimens in the wild with the objective of restoring the eco-race. Identification of the ecological-niche involved reading gazetteers, consulting traditional Sarihan-rearers, and studying seed/sacred groves with rich biodiversity. A 5-day journey through historical routes with traditional Sarihan-rearers (who were in their late-60s) revealed a thriving Sarihan population in its "true" morphological form at an isolation distance of ~120 kilometres from the nearest Daba seed-station. The forest flora had diversity, starkly different from the mono-culture for Daba-BV farming. The insects' reproductive cycle in natural habitats is continuous, providing alternatives to semi-domesticated indoor-rearing. Traditional practices of sustainable harvests leave cocoons in nature for further multiplication.

Our results indicate need to shift from the insect-tree dyad to locating the forest system. The ecological niche concept has difficulties and diverse meanings (Pocheville 2015), but our research is located in the growing number of studies adopting a resource-based habitat approach in a species-conservation context (Vanreusel and Van Dyke, 2007; Salz and Fartmann, 2009 Turlure et al., 2010b). Our research challenges current ex-situ models of eco-race conservation and opens up possibilities of in-situ conservation with rearers.