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**Fire Ants: A nuisance pest in the silk reeling industry****Harishkumar J\* and Prashanth J***Department of Studies in Sericulture Science, University of Mysore, Mysore 570006***\*Corresponding authorl: harishkumarjayaram@gmail.com**

The fire ant, *Solenopsis geminata* (family Formicidae), is a eusocial insect. A serious problem posed by ants in the sericulture industry is their association with the mealybug infestation, that causes serious issues for the farmers in the harvesting of mulberry leaves (Mahimasanthi *et al*, 2014). The fire ants even cause economic losses to the silkworm as they attack worms during rearing and mounting. Further, it has been reported that this ant can hamper egg laying by gravid female moths in the grainage (silkworm egg-producing centres) industry (Govindan *et al*, 1998). But the very next stakeholder in the sericulture industry is the reeling industry, which is even affected by ants. Our observational studies were carried out in the reeling units in the 'Silk City of Karnataka' (the Ramanagaram District (12° 42' 54.1260" N and 77° 16' 52.6656" E), revealed that to have profitability in these sectors, the reelers purchase large quantities of the cocoon at a low price and subject it to stifling to avoid the formation of moth-pierced cocoons, in turn to avoid the problem of getting continuous filaments. But even after stifling, the reelers face the problem of getting continuous filaments. But our study reveals that the ants are the offenders; they affect and damage the cocoons in the huge storage lots.

These red ants create a serious problem by reducing cocoon quality, silk quality, and the efficiency of reelers. They damage the stifled and stored cocoons by cutting the silk fibre, making holes of 3.50–3.65 mm, and feeding on dead pupa (Fig. 1). When subjecting these cocoons to cooking, the reelers face a severe problem finding a continuous reeling end. On reeling the ant-infested cocoon (Fig. 2) on eprovate (a single cocoon reeling device), the non-breakable filament length (NBFL) of the silk fibre has reduced from 450–600 mt to 10–20 mt. Further, it also revealed that the ant-pierced cocoon completely sucked the water inside and completely submerges in the cooking basin, which interfered with the reeling process. The majority of the reeling workers in the observation area expressed that ants bit the reelers, cooks, and cocoon transporters while doing reeling activity. It was also observed that on reeling the ant-infested cocoon, the silk thread quality was affected by partially eaten pupa powders and soil particles (Fig. 3) and caused the reeling bath water to turn completely turbid. Therefore, this ant infestation problem must be clearly addressed for reelers to achieve profitability in the silk reeling industries.



**Fig. 1. Ant pierced cocoon**



**Fig. 2. Fire ants' infestation on cocoon**



**Fig. 3: An ant-infested, cut-open cocoon with a partially fed pupa and earth particles.**

## References

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