Snail: A New Pest

(Coverage by the Hindu News Paper)

01. Kannur bracing for battle against giant African snails

Mohamed Nazeer **(KANNUR, August 4, 2011)**

The Hindu Giant African Snails found at the Sree Narayana Park in Kannur on Thursday. Photo: S.K. Mohan

The district is bracing for a battle against giant African snails (Achatina fulica), as many places here have been served look out notice for the invasive creatures in view of the presence of snail population found in a few places.

The presence of the pest has already been reported at Muzhappilangad and Parassinikkadavu. The finding of the African snails at the Sree Narayana Park in this town a few days ago has raised concern about a major outbreak of snail infestation here.

Many places in the district have been identified as areas vulnerable to the menace and local bodies in these areas are being alerted so that they can take early steps to eradicate the intrusive snails.

A three-member team of experts from the Kerala Forest Research Institute (KFRI) at Peechi, Thrissur, is now on a visit here as part of an effort to rope in local bodies to fight against the menace in both the areas where the infestation is reported and areas identified as vulnerable to the snail invasion.

T.V. Sajeev, who is leading the team, told *The Hindu* that African snail population had been found at Parassinikkadavu and Muzhappilangad here last year, the infestation in the latter being the major one. In both these places, the snails had gone in to hibernation in November last year and came back in June when the rain started.

He said the snails found in the Sree Narayana Park here are a satellite infestation which could be contained easily. It was easy to counter the pest wherever its population was small, Mr. Sajeev said.

The KFRI team has convened a meeting at Muzhappilangad on August 5 to create awareness on the ways to fight the pest menace in the area. Muzhappilangad and Parassinikkadavu are among the 29 places where snail populations were found last year.

Kunjimangalam, Ramanthali, Mattool, Cherukunnu, Madayi, Kannapuram, Azhikode, Cheruthazham, Pallikunnu, Karivellur-Peralam, Ezhome, Kallyasseri, and Pappinisseri panchayats in the district have been identified as vulnerable to the pest invasion.

Neighbouring panchayats of Valiyaparamba, Thrikkaripur, Cheruvathur, and Padanna panchayats in Kasaragod have also been identified as vulnerable to the infestation.

Meanwhile, the municipal authorities here sprayed tobacco decoction and copper sulphate to eliminate the African snails found in the park here under the instruction of the KFRI experts. Municipal health officials said they would monitor the areas in view of the infestation found in the park.

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02. Giant snails threaten to conquer more areas in Kerala

K. S. Sudhi (KOCHI, July 28, 2011)

Special Arrangement Giant African snail (Achatina fulica Rowtich).

Likely to infest at least 41 locations in four districts

Giant African Snails (*Achatina fulica Bowtich*) are likely to infest at least 41 locations in four districts in the State, according to a scientific prediction. Their presence has already been reported from 10 districts.

The Kerala Forest Research Institute (KFRI), Peechi, Thrissur, has come up with a prediction after assessing 20 parameters in the areas from where severe attack of the invasive snail species was reported. The parameters to make a prediction model included, elevation from the mean sea level, precipitation during the wettest and coldest months, mean monthly temperature and maximum temperature during the warmest month, said T.V. Sajeev, the invasive species expert who led the KFRI team.

Experts have predicted 70 to 100 per cent possibility of the snails establishing themselves in these districts.

Palakkad has been identified as the most vulnerable district with the study predicting attack in 22 locations. Puthunagaram, Kodumbu, Peruvembu, Mundur, Puthuppariyaram, Marutha Road, Kannadi, Koduvayur, Chittur-Thathamangalam, Mathur, Pirayiri, Vadavannur and Thenkurissi are some of the vulnerable areas in the district.

Parali, Kuzhalmannam, Pallassana and Polppully are also susceptible to the attack.

In Kollam, Neendakara, Thrikkadavoor, Thekkumbhagam and Chavara are at risk, followed by Kochi Corporation area, Chellanam, Thripunithura, Njarakkal, Udayamperoor, Mulavukad and Elamkunnapuzha of Ernakulam district. The other areas in Kochi include, Cheranallur, Thiruvankulam, Nayarambalam, Maradu, Kumbalam and Kadamakkudy. Perumbalam and Panavally are the two vulnerable areas in Alappuzha district.

The researchers surveyed the State from Valiyathura in Thiruvananthapuram to Manjeswaram in Kasaragod in 2010 and located 29 distinct populations of the mollusc. Large populations were found in Konni in Pathanamthitta, Kolenchery in Ernakulam and Muzhupilangad and Parassinikkadavu in Kannur district. The presence of the pest has already been reported from Alapuzha, Ernakulam, Kozhikode, Kannur, Kasaragod, Mahe, Malappuram, Palakkad, Pathanamthitta and Thiruvananthapuram districts. Konni in Pathanamthitta was one of the worst hit areas.

The species has been listed as one of the “100 World's Worst Invaders.” The snails, which live up to six years in favourable conditions, feed on over 500 different plant species. This include some of the economically important plants like cocoa, papaya, peanut, rubber and most types of beans, peas, cucumbers, melons, lichens, algae and fungi. The infestation was found to be intense in areas with high population density. Areas with untreated garbage and places of water logging are their favourite spots, Dr. Sajeev said.

Experts have recommended the use of calcium arsenate and Metaldehyde under expert supervision in areas of high infestation. However, they advise to desist from the use of salt to kill the pest as it alters the soil pH. The meat of the snails thus killed will rot with foul smell. Moreover, the application of salt will become untenable during rainy days, researchers said.

03. Snails fast becoming a threat

Roy Mathew (THIRUVANANTHAPURAM, July 25, 2010)

Invade homes and farms in many parts of State

Giant African snails are invading agriculture land and homes in several localities of Kerala, posing a serious problem.

A native of East Africa, the land snail (*Achatina fulica*) is a pest that attacks nearly 500 plant species, including those bearing fruits and vegetables and even rubber and coffee.

Attacks by the species have been reported from Thiruvananthapuram and Kozhikode cities, Konni in Pathanamthitta district and Palakkad. It multiplies in large numbers during the rainy season and destroys vegetables, papaya, banana and other crops. In some parts of Kollam district, it has invaded coconut trees and local people are planning a drive against them. In Konni, people have destroyed thousands of snails through application of common salt.

Many people have reacted to the pest with revulsion as it enters the kitchens and other parts of their homes, especially at night. They even feed on the walls of homes as they require calcium, which is found in concrete and lime, for development of their shells.

They, however, cannot stand heat and sunlight. It is easily killed by spraying of salt or copper sulphate. But control is difficult once it multiplies into large populations under congenial climate.

How the snail arrived in Kerala is a matter of conjecture. It was reportedly introduced in the then Calcutta as back as in 1847. Proliferation of the species has since been reported from Karnataka, Orissa and Bihar. The snail would have reached Kerala years ago, but may have found an environment suitable for its gregarious multiplication only now.

It is possible that the multiplication of the snails is another symptom of serious disturbance to Kerala's environment. Farmers from some parts of the State have reported seeing unfamiliar insects. They say that the insects had arrived from Tamil Nadu with chicken droppings brought for use as fertilizer. It can also be the result of environmental changes that favour their multiplication.

Many molluscs and insects had been destroyed in the past because of intense use of pesticides in farms and paddy fields. It is possible that it also led to decline in numbers of their predators. Thus, devoid of competitors and predators, the African snail could have found an opportunity to multiply. And a worrisome factor is that it is not just the snails that are spreading in Kerala now. The list includes influenza viruses, mosquitoes and mites.

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04. Snail invasion sends people into a tizzy

T. Nandakumar (28th June, 2010)

Being a pest:Snails at the government quarters at Melarannoor in Thiruvananthapuram on Sunday.

Thiruvananthapuram: Routs of snails are invading parts of the city, sending residents into a tizzy, amid fears that they would pose a health hazard.

Over the last few days, armies of snails have been sighted at Vallakkadavu, Melarannoor and Vanchiyoor, climbing walls and nibbling through vegetation in some areas. The slimy shelled creatures have been classified as the giant African land snail, one of the worst invasive species in the world.

Scientists are not sure of the reasons for the abrupt proliferation of snails here but the general inference is that it has been triggered by climate change. “The alternating hot and cold temperature over the past few weeks could have created conditions conducive for fast multiplication of the creatures,” says S. Devanesan, Professor at the Entomology division, College of Agriculture, Vellayani. “We have received reports about the proliferation of slugs and millipedes also,” he said.

The giant African land snail is a serious agricultural pest throughout the world. Hailing from East Africa, especially Kenya and Tanzania, the notorious pest, scientifically known as Achatina fulica, is known to attack more than 500 plant species, including vegetables, cocoa, papaya, peanut, rubber, banana and coffee. In Kerala, an infestation of snails was first reported from Palakkad.The creatures inhabit moist areas, especially contoured bunds in rubber plantations. Largely nocturnal, they come out during twilight hours. The adult snails are up to 20 cm long. Typically, they are brown and the shell is banded. The shell is flimsy.

Managing infestation

“Managing a snail infestation is difficult,” says C. Nandakumar, Entomologist at the College of Agriculture. “Sprinkling common salt, lime or copper sulphate will kill the creatures. There are chemical snail killers available in the market but using them could contaminate the environment. The best method is to use wet gunny bags and papaya leaves as bait to collect and destroy them,” Dr. Nandakumar said.

Residents of the Melarannoor colony have declared war on the snails. The residents' association has purchased sacks of salt to manage the infestation. “The slimy creatures climb all over the walls into our toilets and kitchens. They lay eggs all over the place,” says Sreeram, a resident.

“However, there has been nothing to suggest that they could be disease carriers,” says L. Sreekumar, Health Officer, Thiruvananthapuram Corporation.

05. Colourful snails attack cardamom plants

K.S. Sudhi (29th November, 2010)

The mollusc variety is endemic to the Western Ghats

Rare case:Indrella ampulla.

KOCHI: Snails refuse to leave Kerala undisturbed. After the Giant African snails, it is now the turn of Indrella ampulla, a mollusc variety with attractive colours, endemic to the Western Ghats.

The snails have destroyed a large number of cardamom plants in a standalone plantation at Rajakkad, Idukki. The molluscs were found feeding on the flowers and young berries of cardamom plants, leading to considerable economic loss. They were also found to be nocturnal feeders.Pesticide and fungicide applications and saline spray proved ineffective in controlling the snail population. They first appeared in the plantation of K.C. Chellappan some two months ago. “The snails destroyed the flowers and young berries of cardamom plants in around 15 acres,” said Mr. Chellappan.

“The infestation was controlled to some extent by engaging six workers for a week for manually collecting the snails from plants. The workers collected around 500 kg of snails. Stray animals could be seen on the plants even after the exercise,” he said.According to T.V. Sajeev, an entomologist at the Kerala Forest Research Institute, Thrissur, what took place in Rajakkad was a unique case of an endemic animal assuming the status of a pest.

The mollusc was never considered a pest before. “But the trail of destruction it has left in the plantation warrants its cataloguing as a pest,” he said.The infestation has thrown up an exceptional challenge as one has to control the population of a species which is found exclusively in the Western Ghats. “Bio-control methods cannot be recommended as it may lead to the destruction of its natural population outside the plantation,” Dr. Sajeev said.When pesticides were applied, the snail went back into its shell to guard itself from the chemicals.

On application of saline water, the snail was found producing a froth through which it moved, thus nullifying the effect of salinity, he said.

The possibility of controlling the infestation using urea spray was being explored, said K. Parameswaran Nair, a marketing official of an agricultural products company in Idukki. “The saline spray cannot be engaged as it would damage the plants,” he said.“It would be ideal to continue the manual destruction of the snail.

The question of engaging any other control measure can be considered at a stage when there is a flare up of its population,” Dr. Sajeev said.