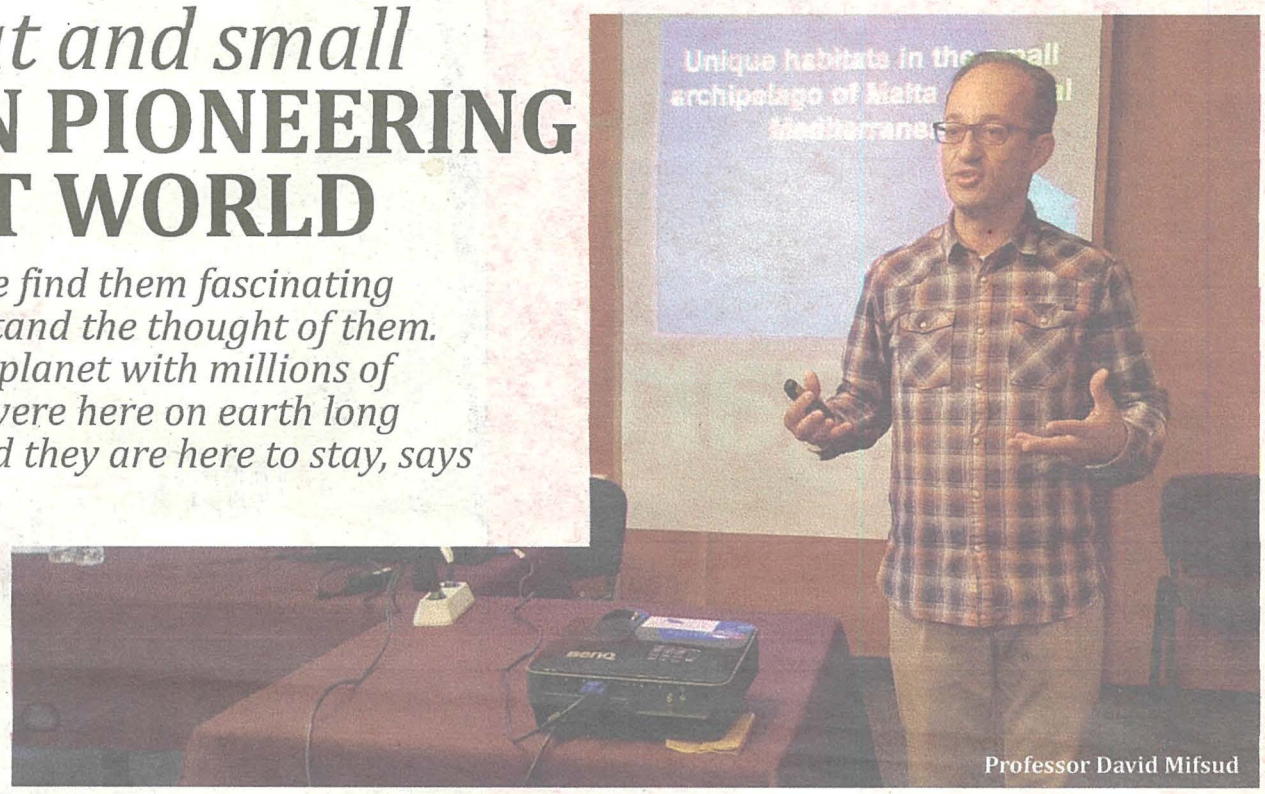
All creatures great and small

MEET THE MAN PIONEERING MALTA'S INSECT WORLD

Insects are everywhere; some people find them fascinating while others cannot even stand the thought of them. Either way, we share this planet with millions of creepy-crawlies. Insects were here on earth long before human-beings, and they are here to stay, says **Dayna Clarke**.



Professor David Mifsud

It will come as no surprise that there are greater numbers of insects on earth than human beings, with over one million named species and many more still to be identified. Ultimately, insects are integral to the world in which we live. Some keep economies running by pollinating flowers and crops and by controlling pests that would otherwise devastate crops. Insects devour waste, helping to break it down while themselves being devoured: they are a vital part of the food chain.

Dayna Clarke speaks to Professor David Mifsud (Institute of Earth Systems, University of Malta) to discuss his work, and the bug world in Malta. David is one of the handful of experts who has dedicated most of his life to studying these fascinating creatures. Two years ago, he was awarded the *Gieħ ir-Republika* by the President of Malta for his contributions to insect studies in Malta.

The Professor is passionate about insects – a passion that has had since childhood. "When I was a small boy, I used to spend most of my time in my parents' garden, looking at ants and woodlice. This probably sparked my love of insects. From an early age, I used to tell everyone that I wanted to become an insect professor and from Grade 5, I already had a nickname: Mosquito!" I recall with fondness that we had to do a science project and I did a nice one on mosquitoes and their role in disease transmission. So, I think this is how my journey into the insect world started!"

Following his interest, Mifsud studied for a BSc in Chemistry and Biology and completed his dissertation on the whiteflies and their parasitoids of Malta. "It was all new back then, as no one had ever studied these locally", he said. "I then completed a Master's degree, with a dissertation on the jumping plant lice of Malta.

"I also completed an additional diploma in Entomology as well at the Natural History Museum of London, where I worked for a year. Following this work, I had several offers to go abroad and complete my PhD thesis on insects so I went to Switzerland where I submitted a thesis on a group of jumping plant lice distributed mainly in South East Asia and described some 40 species new to science.

"Since then, I have worked in many natural history museums, mainly across Europe, and have collaborated with many other scientists across the globe and published over 150 scientific papers on insects.

"In these last 10 years, my team and I have set up a new journal devoted entirely to the study of insects in Malta. It is *The Bulletin of the Entomological Society of Malta* and so far we have produced 10 volumes with more than 200 scientists collaborating on different research papers and copious information. In fact, with these volumes, we have provided information on more than 1,600 species of insects, of which more than

400 were recorded for the first time from Malta. There were also three species described as new to science in this journal, a small parasitic wasp and two small moths."

One of the most recent species Mifsud discovered is known as a 'gall midge', *Asphondylia scopuli* which is a very small insect that causes pea-like galls to develop in an endemic saltbush plant (*Atriplex lanfrancoi*) found on coastal cliffs.

"Apart from these species, we have many more species that are endemic to the Maltese Islands, which means that they are found only in the Maltese archipelago and nowhere else in the world," he said. "In the last few years I have described around 20 of these, and others were named to honour my work such as *Amaurops mifsudi* Poggi, (1999) a small beetle which lives in the soil. At present, together with a colleague of mine, David Dandria, we are currently compiling a complete list of all insects recorded in Malta. We estimate that we may have some 5-6,000 species locally"

But how exactly is our environment suited to them? David Dandria is quick to respond. "Although Malta is small, there is certainly plenty of space where these lovely creatures can live. We have many different habitats. The problem is that these various habitats are usually small and very little is done to keep these places as natural as possible. Coastal sand dunes account for less than 2.5 per cent of the coastline. This is such a tiny area, and in these places we find genuinely unique insects.

"I feel we do not adequately conserve them", he continued. Often tourism and recreation take precedence. Saltmarshes are also unique. There is one in Marsaxlokk (Il-Balluta) which is abandoned and in an unfortunate state to say the least. On paper, we have so much 'protected', but in reality, I am not afraid to admit we do so little to protect what is left of our fragile natural environment."

While the national picture may appear bleak to Mifsud, he is adamant that a great deal can be done at an individual level to protect the insect world. "There are so many things we can do to help insects. We can plant native flowering plants for bees to visit, we can create solitary bee hotels – made from wood and bamboo shoots – in our outdoor spaces, we can clean the environment around us. Needless to say, when we go outside, we should never leave rubbish behind."

In conclusion, Mifsud says: "We should all be more sensitive to the environment and learn that, without biodiversity, humankind will be wiped out in a very short time. We depend entirely on the biodiversity out there. So, we need to protect it and help it to flourish. Above all, we need to educate people and create awareness – and we need to start this with children from a very young age.

"Apart from their economic worth, insects are vital to safeguard nature. While there are only around 1,000 vascular plants, 25 breeding birds, 10 mammals, a few reptiles and two amphibians recorded in Malta, there are thousands of insects – and this is just the start!" he adds.