

Launch of the Bulletin of the Entomological Society of Malta; Volume 8

San Anton Palace, Tuesday 27 September 2016, 19:30

Your Excellency, Honorable Minister, Colleagues and Friends:

Some weeks ago I was requested by the Rector of the University of Malta, Professor Alfred Vella, to represent him at this event and he has asked me to convey his greetings. It was a pleasure for me to accept, and indeed to be able to attend this particular event.

I was then faced with a daunting task. I had to talk about entomology: a topic about which I knew very little, beyond what a layman knows... and my knowledge of insects, gained through my A-level in Biology, is a distant memory.

My first source of refresher knowledge about insects came from a book of poems for children, such as I used to read to my two boys, at bedtime many years ago. The poem *Every Insect* by Dorothy Aldis reads like this:

*Every insect (ant, fly, bee)
Is divided into three:
One head, one chest, one stomach part.
Some have brains.
All have a heart.
Insects have no bones
No noses.
But with feelers they can smell
Dinner half a mile away.
Can your nose do half as well?
Also, you'd be in a fix
With all those legs to manage:
Six.*

The knowledge that led to the scientific discipline of entomology is rooted in nearly all human cultures. Prehistoric Man, initially hunter and gatherer, understood the lore of insects mainly in the context of agriculture and food. In practice, this took the form of bee-keeping, and the biological control of insects. The scientific study of insects itself began relatively recently in man's history; around 400 years ago.

Cultivation, and respect, for bees because of their honey is also rooted in the history and traditions of Malta. Honey even lent its name to our country and in our childhood we all learn to sing: *Lil din l-art ħelwa, l-Omm li tatna isimha*, the first verse of our National Anthem.

Bees also feature in many emblems. These well-organized, productive, industrious and social insects were included by Napoleon, along with the imperial eagle, in his coat-of-arms. The notorious Roman family Barberini simply had three bees as their emblem.

In a more sinister historical twist, legend records that an insect caused the quite sudden death of a Pharaoh. More than 4500 years ago, Pharaoh Menes allegedly died very rapidly in anaphylactic shock following a sting from a wasp.

The relationships between insects and man are at multiple, and at various levels. They range from phobias, fear and disgust to admiration of their beauty. Man marvels at their organizational abilities, and we now study insects at a high-academic level: precisely what we are celebrating today.

This leads me to a former background that I have: I once trained in medicine, and in relation to this discipline, the relationship between insects and man is not usually a very happy one, in that insects are closely associated with disease. The Black Death or the great plague of 1348, practically decimated the world's population and caused massive social disruption and much political and religious upheaval. *Xenopsylla cheopis*, the flea vector of *Yersinia pestis* was a main culprit in this pandemic, which was to recur albeit on a lesser scale over the succeeding centuries.

Much more recently, other insects have gained notoriety. The mosquitoes *Aedes aegypti* and *Aedes albopictus* are currently top of the list of notoriety and as such, engender much fear. The Zika virus is spread by these daytime-active mosquitoes. The impact of this disease is multi-faceted and ranges from impairment in human health to downturn in economic activity and political consideration at national and international level.

Insects are also currently responsible for disease on a much more massive scale. The malaria parasite is transmitted through the bites of infected female *Anopheles* mosquitoes. About 3.2 billion persons are at risk and Sub-Saharan Africa carries a disproportionately high share of this burden. Well over 80% of malaria cases, and around 90% of deaths from malaria occur in these countries.

From distress and disease let us turn to and consider the usefulness, the beauty, and the elegance of insects.

There are over one million known species of insects, but it is likely that as many as 30 million. They are some of the most important organisms in our world and one of the most vital functions insects have is as a food source for other animals. Around 95% of birds feed their young with insects, and it has been estimated that it can take more than 5,000 insects to raise one brood of sparrows.

Insects are also vitally important for humans. Pollinating insects like bees, wasps, flies and butterflies, are responsible for about a third of the food we eat. Although most of us appreciate their importance, few of us appreciate their looks.

On the pretty side of the beauty spectrum, the insect world allows us insight into the complexity of some of the most beautiful and attractive living organisms. The shape and colouring of insects have influenced design in clothing and other apparel, as well as artistic inspiration in general. On the other hand, the study of structure and movement in insects has inspired engineers and architects.

Insects are also ideal tools for research work and are a very important source and tool for observations. The large number of insect units for study at all levels: species, populations, and individuals, provide scientists with research questions and provide data for hypothesis-testing. Also, as insects usually have a short life-cycle, often more than one generation per year, researchers are able to make several observations of all life-stages in quite a brief time-period. In particular, the study of DNA in insects allows us fascinating insights into so many disciplines: amongst them molecular biology, genetics, physiology, ecology, neuroscience, and forensic archeology.

Today we celebrate the launch of Volume 8 of the Bulletin of the Entomological Society of Malta, and indeed we meet to honour this Society: an organization that punches well above its size in terms of quality. The contents of the latest volume of the Bulletin are a chronicle of excellent papers of high academic worth, such that would make a much larger international publication in entomology proud. The papers published are obviously very carefully selected and peer-reviewed to high scientific standards. The fact that it is an open-access journal ensures the widest dissemination to the community of scholars, worldwide. Much of this credit deservedly goes to the Editor of the Bulletin, and clearly Dr David Mifsud is a scientist of the first-order.

The University of Malta is proud to be associated with such a Journal and indeed to have a close relationship with the Entomological Society of Malta. At a personal level, I consider myself privileged to have had the first President and founder member of this Society, as a friend and colleague. Dr Martin Ebejer, a fellow respiratory physician, left Malta prematurely to pursue his profession overseas. The medical expertise that was gained by the United Kingdom was Malta's loss, but thankfully Martin kept up his contacts with his entomological and ecology-minded colleagues over here.

The current president of the Society, Dr David Mifsud, a colleague of mine on the staff of the Institute of Earth Systems, is a veritable dynamo of a person and is a pillar around which I am sure that the Entomological Society of Malta can gain ground and expand. Finally, I wish both David, and the Society greater successes in all their endeavours.

Professor Joseph Cacciottolo,
Pro-Rector for Academic Affairs, University of Malta.