

NYAWA 2014

life within life

Elaine Chin Jinfeng
Cheah Yoke Kqueen

Life began on a small scale. The first organisms were single cells. Sometimes small groups of cells formed. Eventually, these microorganisms evolved into complex multicellular organisms. The fact that microorganisms still exist today in many forms is a testament to the quality of this original life form. Microorganisms have adapted to inhabit almost every corner of the world. They are found in the environment be it the ocean, lakes, land, and even within other larger organisms such as humans and animals as well as plants and trees.

For that, we would like to bring your interest into the world of endophytes. What are endophytes? Many do not know that endophytes exist and live within the plant. Many do not know of their wonders. Endophytes are organisms, often fungi and bacteria, which live inside living plant cells. The word endophyte means “in the plant” (endon, within; phyton, plant). It is amazing to observe and see how endophytes are able to be isolated from the plant cells. Endophytes are ubiquitous with a rich biodiversity, which have been found in every plant species examined to date. It is noteworthy that, of the nearly 300,000 plant species that exist on the earth, each individual plant is the host to one or more endophytes. Endophytes are able to produce secondary metabolites to enhance the ecological fitness of their host plants. These secondary metabolites are known to be the promising source of novel organic natural metabolites exhibiting a variety of biological activities potential for pharmaceutical, agricultural, industrial and biotechnological applications. Endophytes are also known to produce ravishing morphologies which can be a form of artwork. We have successfully isolated several beautiful endophytic fungi and endophytic bacteria from several medicinal plants found in Malaysia. With much inspiration to enlighten the eyes of many, a lamp is made to portray their magnificent beauty in the form of shadows of endophytes. This is to illuminate the exquisite beauty of the world of endophytes

