Editorial

John Leader.

"What's the use of [animals] having names" the Gnat said "if they won't answer to them?". "No use to them" said Alice "but it's useful to the people who name them I suppose. If not why do things have names at all?" "I can't say" the Gnat replied. From "Alice through the Looking Glass". Lewis Carroll.

I first encountered this quotation as a question in Part II of the Natural Sciences Tripos (Zoology) in Cambridge in 1963. On reflection my answer was probably pretty naïve, but this was understandable at a time when the Zoology Department was pioneering experimental physiology. Names didn't matter so much, when most entomological researchers studied the cockroach, the blowfly or the blood-sucking bug *Rhodnius*. At that time, if there were pests, then DDT would fix them. In post-war Britain, no-one cared overmuch about insect pests anyway. Apples were usually host to codling moth caterpillars, cabbages were generally worked over by pierid larvae, and moths and beetles had an uncanny knack of finding stored flour and biscuits. Losses to pests were substantial but tolerated in a diverse economy. The only serious pest in Britain then was the Colorado beetle, a pest of potatoes, a picture of which appeared on every public notice board with an exhortation to find and report.

In New Zealand, a small trading nation with a unique flora and fauna and a fairly narrowly based agricultural economy, and with an enormous flux of people and material into and out of it, the risks of serious economic harm from introduction of unwanted pests and diseases are huge. In the past few years there have been several serious incursions of noxious or damaging pests and the cost of eliminating them has been enormous. For example, extermination of the painted apple moth cost an estimated $62 million, as well as disrupting the lives of a large number of people in Auckland; destroying populations of *Aedes camptorhyncus*, a vector for Ross River

virus, cost $70 million. The ongoing programme to eradicate the Queensland fruit fly infestation has cost over $17 million to date. These are the successful projects: A study of the Didymo colonization of New Zealand rivers has cost $10 million so far and with no apparent effect, attempts to control the Varroa mite have been abandoned, with the ongoing cost to the country estimated at up to $900 million over the next 35 years. However even these huge numbers pale into insignificance compared with the effects of an outbreak of 'foot and mouth' disease. In the United Kingdom in 2001 the slaughter of about 10 million cattle and sheep cost that country an estimated £7.7 billion, and in this country MPI has calculated that the cost of a similar outbreak would be about $16 billion, which would reduce this country to penury.

The rapidly increasing numbers and variety of visitors to this country mean that inevitably such incursions will increase, in spite of the best efforts of biosecurity staff. It is a matter of regret that a small but vocal minority has prevented the introduction of gamma irradiation of all organic material (other than the passengers) entering the country. This is a rapid, inexpensive and highly effective method of protecting against imported pests. In its absence we have to accept that incursions will happen, and some are likely to strike at one of our larger monocultural industries. If that happens our first effective line of defence is rapid identification of the threat and the initiation of a decisive response. Failure to do this, as with Varroa, results in rapid diffusion of the agent and consequent huge expense or admission of failure.

In this context it is a tragedy that taxonomic studies have such low standing in this country. Skilled specialists, in touch with their colleagues overseas, are uniquely placed to be a reservoir of information about present and future threats. Many of these will arise from invading insects, particularly if there are climatic changes which will bring new challenges. A rapid response will depend on quick identification of the problem, and evaluation of the risk, based on knowledge of the pest.

But in addition, there is in this country an increasing interest and enthusiasm for preservation of our unique natural resources. It is unfortunate that for most people such conservation does not extend beyond the kiwi and kakapo. These iconic birds stand at the top of a pyramid built on an ecology which remains poorly understood, and which is increasingly stressed by the pressure of development.. The key to that understanding must be identification and naming of our endemic fauna, the first step in placing them in an ecological context. This is not just an academic pursuit, the knowledge gained is fundamental to a better management of our indigenous fauna, but it will also enable quicker identification of introduced visitors, prediction of their possible effects, and rapid deployment of measures for their elimination or control.. New Zealanders are entitled to such protection. Good collections and excellent curators are the foundation of biological science, maintaining both at a high level is in the national interest