

Preface

Insects are a vital but under-addressed part of the ecosystem contributing to agriculture and health. There is a large and diverse global trade in living insects, which are used as pest control agents, research and educational material, companion animals and to establish food and feed production. While much of this trade (commercial, research and educational) flows effectively and efficiently, many shippers, receivers and carriers face regular rejections, delays, losses and additional costs because of confusion over the rules and conditions for international shipments of live insects. The increasing trade in processed insect-based products for food and feed poses fewer risks to animal health but also warrants consideration.

The safety, regulatory and environmental issues related to trade of live insects, in particular, are intimately related to animal and human health concerns. The OIE *Terrestrial Animal Health Code* covers one important species of insect, the honeybee, which has long been cultivated with international exchanges of breeding stock. Other species of insects have been traded in the millions over recent decades, such as sterile insects for pest control programmes. With additional species being increasingly traded, however, there is a growing gap in the understanding of risks in their respective production systems. Veterinarians, and others with responsibility for insect shipments, must approve consignments without the benefit of international guidance such as the OIE provides for honeybees. While some of the insects now traded regularly can be considered as conventional cultures in the way honeybees are, the trade also includes small and infrequent volumes of laboratory-reared and wild insects that would not easily be covered by species-specific guidance, such as that found in the OIE *Terrestrial Animal Health Code*.

Substantive discussions have appeared in the *Scientific and Technical Review* examining insects as vectors of animal and zoonotic diseases. For example, in 2015, articles in Volume 34 (1) introduced an overview of the

vector systems of importance to animal health (e.g. ‘Insects as vectors: systematics and biology’ by F. Rodhain) and approaches to control (‘Disease prevention and anti-vector campaigns: insects’ by J. Esterhuizen). At that time, large-scale insecticide use was still promoted but A.M. Nijhoh (‘Genetic make-up of arthropod vectors’) explored opportunities for innovative control approaches. This issue of the *Review* focuses on the operational aspects of both traditional practices, such as release of biological control agents and the sterile insect technique, and innovative genetic vector control and use of insects to transfer beneficial pathogens, all of which involve the transport of insects across political borders to use in control programmes. The issue also extends to non-vector species that may be pests of plants in agricultural or natural ecosystems and insects used for research as model organisms or for other educational purposes. In short, as insects are categorised as animals, the aim of this *Review* is to pose questions as to the OIE’s role with regard to insects. For example, should the OIE be providing more guidance for all trade in insects?

This issue’s purpose is not to provide a definitive answer as to the OIE’s appropriate role with regard to insects; rather, by commissioning this publication, we have sought to stimulate further discussion on the broad issues currently affecting the live insect trade. It is recognised that many of these issues involve risks, regulatory responsibilities, and commercial and logistical processes that are beyond the mandate of the OIE concerning animal and consequently human health. However, as part of a commitment to the One Health concept, we are pleased to open discussions on this important trade grouping.

I recommend you engage with this ground-breaking issue of the *Review* through this lens – as a means of opening this important discussion. The issue addresses the gap in viewing trade of insects as a category and provides valuable updates on the regulatory environment at the global and national levels; the varied perceptions of risk regarding the trade of live insects and corresponding risk analyses related to insect health, animal

health and human health; the uses of insects, including in research, as inputs in agricultural production systems and in practices associated with insect culture and trade for food and feed; and discussions of environmental and ethical concerns surrounding the breeding and trade of live insects. In addition, the process of compiling this publication provided the opportunity to create an engaged network of experts on the above-mentioned topics. We hope that this issue of the *Review* and the network it helped to create will provide a foundation for informed discussions around potential future guidance to support the beneficial outcomes of moving insects around the world.

Monique Éloit

Director General