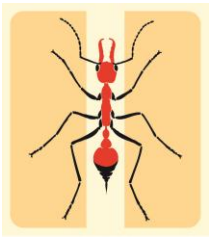

Australian Entomological Society

The Australian Entomological Society Conservation Committee
Supplementary Statement to the Review of the EPBC Act, 2020

In acknowledging that terrestrial invertebrates perform critical ecological functions in all terrestrial and freshwater ecosystems; and given the unique levels of continental, regional and local endemism in the Australian invertebrate fauna; and recognising that this fauna is facing widespread threats including habitat loss, climate change, invasive species and urbanisation; the Australian Entomological Society through its Conservation Committee will promote research, disseminate information, develop and inform policy, and manage conservation of terrestrial invertebrates, both in taxonomic and functioning entities, in native and modified ecosystems.

- The Australian Entomological Society Conservation Committee (AESCC) recognises that insects and allied invertebrates are the most numerous organisms on Earth in terms of both number of species and biomass. They perform key roles or 'ecosystem services' that are essential to our very survival (e.g. herbivory, pollination, predation, nutrient cycling, and energy flow). Importantly, they are the major food source for sustaining biodiversity at all trophic levels, from invertebrates alike, to the vertebrates.

- The AESCC recognises that Australia supports an immense diversity of insects and allied invertebrates (~320,000 species), many of which are found nowhere else. The Australian insect fauna is increasingly under stress and likely to be disappearing rapidly due to a number of threats. The major key threatening processes are habitat loss (75% of native vegetation has already been cleared or modified), fragmentation of natural systems, urbanisation, invasive species (weeds and feral animals), inappropriate fire regimes, and climate change.

- The AESCC notes that insects and allied invertebrates are extremely poorly represented in conservation schedules, such as the *EPBC Act*. We recognise that listing on these schedules is constrained by various impediments, including: (1) the public dilemma (they are too small, too hidden, too little known, and have an undeserved poor public perception), (2) the political dilemma (they receive too little attention from decision-makers, and funding is poor), and (3) the scientific dilemma (there are too few scientists studying them). Consequently, very little is known about the taxonomy, distribution, abundance and ecology for the majority of species. We also recognise that there is an enormous number species, many of which are not yet named.

- For these reasons, the AESCC acknowledges that insects and allied invertebrates provide certain challenges for nomination onto conservation schedules, especially adequately substantiating their eligibility, in terms of data deficiency: their vast numbers of species, and spatial and temporal population fluctuations. The AESCC considers that nominations for insects and other invertebrates would include such evidence of habitat-based threats and host specificity to co-threatened hosts. We also consider that such nominations be expedited in lieu of long term monitoring, that may come too late for many species.

- The AESCC aims to promote ‘flagship’ species – threatened species and/or ‘iconic’ species of high scientific/social value – through local communities comprising a diverse array of stakeholders (scientists, government agencies, NGOs, citizen scientists, farmers and Indigenous groups) representing different bioregions and ecological communities across the country. The goal is to increase public awareness, advocacy and the promotion of species through community groups, and the nomination of flagship species under the *EPBC Act*. Such a community-based landscape approach and strategic nomination process would encourage a more uniform representation of insect conservation across the Australian continent.

- The AESCC recognises that the *EPBC Act* plays a critical role in protecting Australia’s unique biodiversity. We support the listing and protection of ecological communities at all levels of governance: through expansion of wilderness areas, the national park system, state parks and conservation reserves, and local government parks and reserves. We support the protection and rehabilitation of remnant habitat on roadside and rail corridors, and on leased and private lands that provide critical habitat for recruitment and dispersal corridors in fragmented landscapes.

- The AESCC supports the concept of rigorous assessment of key threatening processes in land management and development applications. We acknowledge that the consequences of mismanagement or poorly conceived development applications may have far reaching environmental repercussions, e.g., downstream ramifications of groundwater extraction (that may take hundreds of years to replenish) and allocation of water licenses (allowing for environmental flows), timber harvesting in forest and woodlands (retention of old-growth flora for habitat), fire regimes (that allow for regeneration of long-generational species) and agricultural and urban developments (that may impinge on populations of threatened species). The AESCC endorses the role of a rigorous and effective *EPBC Act* to enact and direct policy for land management.

- The AESCC supports the *EPBC Act* in the landscape listing of ecological communities for the protection of flora and fauna, in the knowledge that all diversity is protected within, regardless of how much we know about their species composition or their ecological interactions.

- The AESCC advocates for a marked increase in area of protected ecological communities (wilderness areas, national parks, conservation reserves) to mitigate further loss in Australia’s natural heritage. These areas need to be refocused for the protection of natural biodiversity without the compromise of commercial developments and other economic activities. Land clearing of natural habitat needs to stop immediately. Rehabilitation of degraded lands is urgently needed. Much more action needs to be taken at the national and international level to prevent further climate change.

- The AESCC recognises and endorses the role of the *EPBC Act* to provide a solid framework in environmental management and protection. We seek to actively promote the further nomination of key ecological communities and flagship species under the *EPBC Act*. We firmly advocate for a strong, effective *EPBC Act* for the conservation and protection of Australia’s biodiversity at all levels of land management and at all

levels of governance.

Relevant Publications

Taylor GS. 2018. Symposium Overview. Insect conservation in Australia. *Austral Entomology* **57**, 119–123.

Taylor GS, Braby MF, Moir ML *et al*. 2018. Strategic national approach for improving the conservation management of insects and allied invertebrates in Australia. *Austral Entomology* **57**, 124–149.

Sands DPA. 2018. Important issues facing insect conservation in Australia: now and into the future. *Austral Entomology* **57**, 150–172.

Braby MF. 2018. Threatened species conservation of invertebrates in Australia: an overview. *Austral Entomology* **57**, 173–181.

New TR. 2018. Promoting and developing insect conservation in Australia's urban environments. *Austral Entomology* **57**, 182–193.

Gagic V, Paull C & Schellhorn NA. 2018. Ecosystem service of biological pest control in Australia: the role of non-crop plants within landscapes. *Austral Entomology* **57**, 194–206.