Appendix 2 Guide to the identification of common parasites of Australian mammals

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Much of the original literature on helminth parasites of monotremes and marsupials may be found in Spratt et al. (1991).

1 COLLECTION PROCEDURES

1.1 Helminths (trematodes, nematodes, cestodes, acanthocephala)

Two types of collection procedures are used to collect parasites from carcasses: long and short. The division is based on the time taken to collect and preserve the parasites. In general, 'long' procedures refer to the optimal fixation procedures that will provide the best specimens for taxonomic studies. These procedures generally require more time, effort and resources than 'short' procedures, but maximise the chances of both collection and identification of any parasites present. 'Short' procedures are generally simpler, more applicable for use for specific organs or whole carcasses of small mammals and may be more suited for field situations.

All parasites collected for identification should be accompanied by a comprehensive label.

1.1.1 Long procedure

Examine body cavities, organs and subcutaneous tissues for parasites. Collect any parasites into a sterile container and wash briefly in 0.9% saline to remove mucus. Water can be used if saline is not available, however, if so then very brief washing is recommended. Helminths should be fixed with either 70% ethanol or 10% formalin. Ethanol is preferred as it enables genetic studies to be carried out. The ratio of volume of fixative to parasite should be at least 10:1. Hot fixation is preferred for trematodes (flukes) and nematodes (roundworms) to prevent contraction of specimens. For hot fixation, bring a small amount of solution to boil on a hotplate in a fume cupboard (good ventilation is essential), remove from heat and pour onto specimens in minimal amount of saline.

Alternatively, hot saline or hot water can be poured onto specimens and cold formalin or alcohol added immediately afterwards. As an alternative to hot fixation, large nematodes and trematodes can be fixed in a mixture of 95 parts of glacial acetic acid and 5 parts of concentrated formalin. This procedure is unsuitable for