

TECHNICAL NOTE

Aquatic Invertebrate Survey (Item for YYCMG newsletter)

Ian Fordyce, 5/7/08

The fieldwork component for a survey of aquatic invertebrates in the Yarra Yarra catchment area has now been completed. It involved 25 study sites – mostly small lakes and flooded claypans on the uncleared fringes of main saltlake chain. Several environmental features, such as pH, salinity, oxidation potential, and water temperature, were measured on site; samples were collected for detailed chemical analyses; there were observations of vegetation – both aquatic, such as waterweeds and algae, and terrestrial, such as the surrounding samphire or shrubland. Finally, a short transect in each waterbody was swept with fine-mesh nets to retrieve invertebrate specimens for identification and counting. These specimens included crustaceans of many kinds (e.g. the shield shrimp shown in Fig. 1), and insects (e.g. mosquitoes, midges).

Some of the more brackish waterbodies, topped up with relatively fresh water after recent rain, were teeming with plants and animals of many kinds. The bigger lakes, where the water and sediments tended to be more saline, contained a similarly large quantity of living material, but much less variety. The fauna of some lakes was overwhelmingly dominated by a single species of brine shrimp. Some (but not all) of the waterbodies immediately downstream from hypersaline and highly acidic drains appeared to be entirely lifeless.

The survey is being carried out by a University of Western Australia team led by Dr Andrew Storey, with funding from the WA Department of Water (DoW). Figure 2 shows netting in a flooded claypan near the southern end of Mongers Lake. Work is continuing now with sample sorting, identifications and analyses. A report, which will be available later in the year, will be a snapshot description of invertebrate fauna in Yarra Yarra lakes, and will outline possible impacts of agricultural activities such as groundwater discharge.



Fig.1. Shield shrimp. The individual shown here is about 3 cm long.



Fig. 2. Survey crew hard at work at a site east of Buntine. The delivery drain in the foreground has overflowed, releasing hypersaline groundwater into the claypan.