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## Winter Boobook diet

Several texts and at least one research paper claim that Southern Boobooks take mainly vertebrates, not insects. Penck and Queale (2002) analysed crop and stomach contents from 117 Southern Boobooks in South Australia, mainly from road-kills and window-strikes in autumn and winter. They concluded that invertebrates made up 95.9 per cent of the diet. Estimates from pellets (castings) alone, they said, might underestimate the number of invertebrates with no hard, indigestible parts that would persist in pellets.

A problem with this claim was that researchers analysed crop contents. Owls differ from other raptors, like eagles or hawks, because they do not have crops. Penck and Queale should have, instead, been analysing gizzard contents, so one has to wonder if samples were confused with other road-killed birds that do have crops, or confused crops with gizzards.

The gastric juices in a hawk gizzard, where pellets are formed, can be about six times as concentrated as gastric juices in an owl gizzard. Consequently, an owl casts a pellet with whole animal bones and skulls and hard insect parts in it, whereas a hawk might cast a pellet looking more like a ball of felt because small bones were digested. Why didn't Peake and Queale find more vertebrate bones in the road-killed Boobooks they analysed? Ed McNabb (2002), as well as James Fitzsimons and Tony Rose (2007), both said that wintering Boobooks in Victoria preyed mainly on mammals. Who was right?

In an earlier study, Tony Rose (1996) analysed both stomach contents and pellets from Southern Boobooks. He found proportionally more invertebrates in stomachs, and proportionally more vertebrates in pellets. This seemed to support