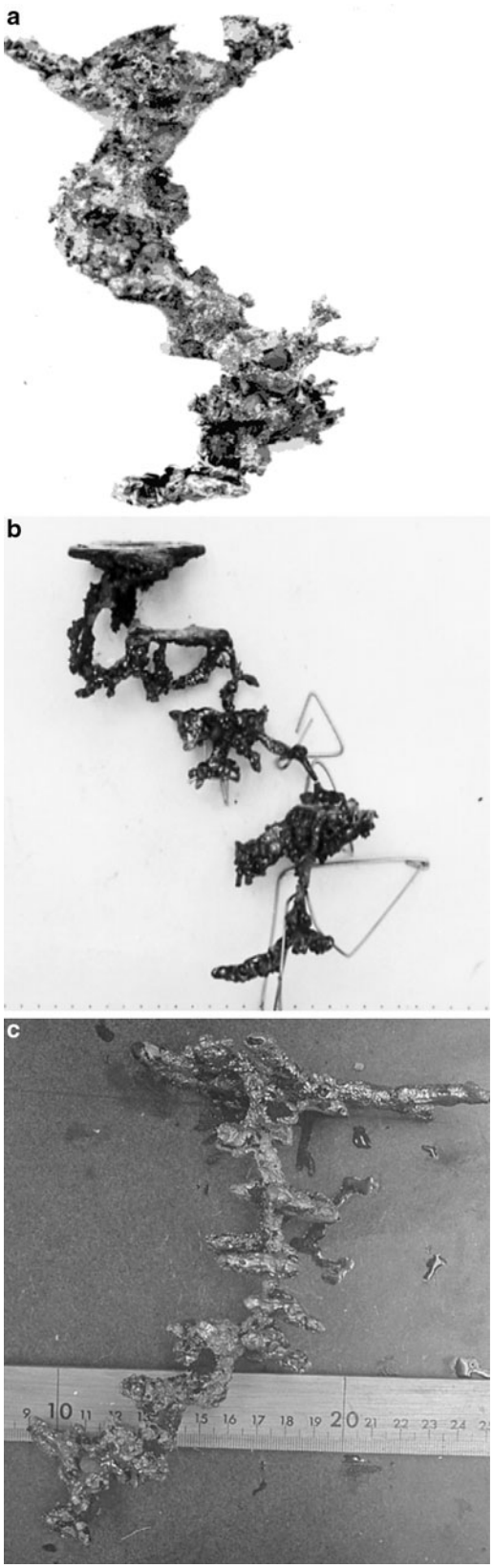

Fig. 6 Nest castings of **a** *R. violacea*, **b** *R. inornata* and **c** *M. turneri perthensis*. The two *Rhytidoponera* spp. were from laterite soil, and the nest of *M. turneri perthensis* was from sandy soil

Colony size

The number of workers per nest of *R. violacea* and *R. inornata* was small and fairly similar (mean = 173.2 and 197.6 workers, respectively), and sizeable numbers of alates were found to be present (Table 1). Numbers of workers in the *M. turneri perthensis* nest were also fairly small (mean = 230.4) and no alates were found (Table 1).

Feeding habits

Rhytidoponera inornata workers were not observed carrying food frequently enough to make any generalisations about food preferences. *R. violacea* was observed carrying invertebrate prey or carrion throughout the year and seeds were present in their forage during March and April, comprising 6.3% of dietary observations from the entire observation period (Table 2). *M. turneri perthensis* ceased foraging during the cooler months, but was observed carrying seed from November through to May, with this component comprising 29.1% of forage. The rest comprised miscellaneous plant fragments (25.3%) and invertebrates (54.6%) (Table 2). Taking account of the full observation period, *M. turneri perthensis* carried 4.6 times as many seeds as *R. violacea*.

We were able to obtain data from middens for all three species and all exhibited an omnivorous diet of arthropods and seeds, although we cannot discount the possibility that they might also feed on nectar. The latter is most unlikely, as none of these species ascend trees or shrubs. Based on nest middens, *M. turneri perthensis* was the most reliant on seeds (49.3%), followed by *R. violacea* (37.6%), and *R. inornata* (8.0%) (see Supplemental Table S4 for details).

Foraging response to seed availability

Flowering phenologies of myrmecochorous and non-myrmecochorous plant species were very similar ($D_{\text{observed}} = 0.216$, $D_{p\,=\,0.05} = 0.309$), with peaks in September–October. The best regression models relating ant activity to myrmecochore flowering were found after a 4-month lag for both *M. turneri perthensis* ($R^2 = 0.572$; Fig. 7c) and *R. violacea* ($R^2 = 0.692$; Fig. 7a). In none of the lag periods was the activity of *R. inornata* positively correlated with myrmecochore flowering, with only a negative correlation being found after a 1-month lag ($R^2 = 0.232$; Fig. 7b).

Seedling emergence from nests

Some seedlings emerged from the directly heated rectangle surrounding the nest opening of both *R. inornata* and *M. turneri perthensis*. However, many seedlings emerged