

SUPPLEMENTARY MATERIAL: ADDITIONAL DETAILS OF MATERIALS AND METHODS

Heterospecific alarm calling

We classified particular calls as alarm calls if we had previously observed that species giving that call in the presence of a predator, and if we had observed conspecifics reacting by flying to cover. Species that produced alarm calls to which pied babblers responded included: white browed sparrow weavers (*Plocepasser mahali*), fork tailed drongos (*Dicrurus adsimilis*), crowned lapwings (*Vanellus coronatus*), glossy starlings (*Lamprotornis nitens*), lilac breasted rollers (*Coracias caudatus*), crimson breasted shrikes (*Lanius atrococcineus*) Southern yellow billed hornbills (*Tockus leucomelas*), ground-scraper thrushes (*Psophicichla litsitsirupa*), ant eating chats (*Myrmecocichla formicivora*) and chestnut vented tit-babblers (*Parisoma subcaeruleum*).

Predators to which we observed other species giving alarm calls included: gabar goshawk (*Micronisus gabar*); little banded sparrow hawk (*Accipiter badius*); pale chanting goshawk (*Melierax canorus*); lanner falcon (*Falco biarmicus*); tawny eagle (*Aquila rapax*); martial eagle (*Polemaetus bellicosus*); giant eagle owl (*Bubo lacteus*); spotted eagle owl (*Bubo africanus*); slender mongoose (*Galerella sanguinea*); yellow mongoose (*Cynictis penicillata*); African wild cat (*Felis lybica*); Cape cobra (*Naja nivea*); puff adder (*Bitis arietans*). All of animals these elicit strong reactions from pied babblers, and most have been observed attacking them on multiple occasions.

Innocuous stimuli to which pied babbler sentinels gave alarm calls

Cape turtle dove (*Streptopelia capicola*), red eyed dove (*Streptopelia semitorquata*), Southern yellow billed hornbill (*Tockus leucomelas*), glossy starling (*Lamprotornis nitens*), crowned lapwing (*Vanellus coronatus*), Kori bustard (*Adeotis kori*), Cape ground squirrel (*Xerus inauris*), common duiker (*Sylvicapra grimmia*), steenbok (*Raphicerus campestris*), blue wildebeest (*Connochaetes taurinus*), springbok (*Antidorcas masupialis*), gemsbok (*Oryx gazelle*), eland (*Taurotragus oryx*), domestic goat (*Capra*

aegargus hircus), domestic cow (*Bos taurus*), garden hosepipe, plastic bag, fence wire, and back pack.

Effect of calm and disturbed surveillance calls on the responsiveness of foragers to sentinel alarm calls

To investigate the probability of the focal bird flying to cover, we constructed a GLMM (see below) and fitted the behaviour of the focal bird as the response variable (1 = fly to cover, 0 = no response), with a binomial total of 1 (model dispersion parameter fixed at 1). We fitted individual identity as a random factor (estimated variance component = 1.30 ± 2.21 S.E.), and fitted treatment as a fixed factor (calm or disturbed sentinel call playback). Data came from 14 pairs of calm/disturbed sentinel call playbacks to 6 groups.

To investigate the proportion of the focal group flying to cover, we constructed a GLMM (see below) and fitted number of group members who flew to cover as the response variable, and total number of group members who were foraging on the ground before the alarm call playback as the binomial total (model dispersion parameter estimated). As random factors we fitted Group identity (estimated variance component = 0.20 ± 0.47 S.E.) and playback pair identity (estimated variance component 0.088 ± 0.48 S.E.), and fitted treatment as a fixed factor (calm or disturbed sentinel call playback). Data came from 14 pairs of calm/disturbed sentinel call playbacks to 6 groups.

Equipment

We collected observational data using Palm TX PDAs (Palm, Sunnyvale, California) running purpose written programmes, and made sound recordings using Sennheiser MKH416T microphones and Marantz PMD670 hard-drive sound recorders. For playback experiments, sound files were constructed and edited using Cool Edit 2000 (Syntrillium Software Corp., Phoenix, Arizona), then stored as WAVE audio files on an Apple iPod and played back on a Sony SRS-A35 speaker.