

Further observations on the nesting of *Podagritys chambersi* and *P. digyalos* (Hymenoptera: Apoidea: Spheciformes: Crabronidae).

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Nesting behaviour of the closely related species *Podagritys chambersi* Harris and *P. digyalos* Harris was described by Harris (1994, 1995, 2000). Harris (1994) described single-celled nests for *P. digyalos* and Harris (2000) described a single-celled nest in the upper part of an active *P. parrotti* Leclercq nest. Harris (2000) also described an unusual, two-celled *P. digyalos* nest that was tubular, the two cells occupying the horizontal main burrow, being separated by a single partition, so that the cells lacked the usual, individual side burrows encountered so far in *Podagritys* nests. Here, for the first time, normal, multicelled nests with individual cell burrows, are described for *P. digyalos*. The following observations indicate that nesting in *P. digyalos* and *P. chambersi* is usually very similar.

***Podagritys chambersi* Harris**

Between 25 December 2000 and 19 January 2001, relatively large nesting colonies of 40 - 60 individuals of *P. chambersi* were observed in almost vertical banks north east of Hurleyville (TK) on the sides of Ball Road, where it descends to the Patea River. *Podagritys chambersi* nests were made in ochre-coloured siltstone, not in grey papa mudstone in which other sphecids were nesting. Both banks were composed of the same minerals: quartz, feldspar, muscovite, chlorite and clay minerals. However, the grey banks were composed of primary unweathered siltstone, while the brown banks in which *P. chambersi* were nesting contained some iron oxyhydroxide formed by weathering of some of the chlorite, was more friable than the mudstone, and more properly conformed to the name "soil".

Podagritys chambersi were nesting in association with *P. albipes* (Smith) and *P. carbonicola* (Dalla Torre). Nests of all species were in vertical banks and in some places also in sloping banks of slip faces. Three *P. chambersi* nests in vertical banks were excavated (Fig. 1). These all had a main burrow 2.3 mm wide, which extended horizontally for 53 - 86 mm. One ended blindly, another was single celled, while the remaining nest had three cells. In the three-celled nest, one cell contained a cocoon which was 7.6 mm long, 2.8 mm wide, obovate, and was coloured Vandyke

brown. Another closed cell contained 13 small, acalypterate Diptera, of which one prey item held a first instar *P. chambersi* larva ventrally between the head and prothorax. The remaining cell held eight small acalypterate Diptera and was seemingly incompletely stocked for it contained no immature *P. chambersi* and lacked a closure. Female *P. chambersi* hawked and flew headfirst into the bank, repeatedly making small feints and backing off again. They also entered small burrows in the bank, which excavation revealed were already occupied by cicindellid larvae, ants and native bees. These burrows were not subsequently used by *P. chambersi* for nests.

A similar nesting aggregate of *P. chambersi* was observed in a drainage ditch at east Pohangina, the prey again being small acalypterate Diptera.

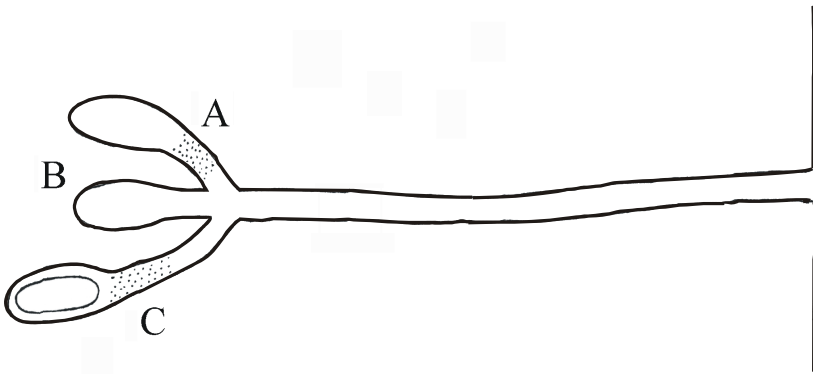


Figure 1. Three-celled *P. chambersi* nest in siltstone, Hurleyville, Taranaki. A: closed cell containing acalypterate Diptera. B: unclosed cell incompletely stocked with small, acalypterate Diptera. C: closed cell containing cocoon.

Podagritus digyalos Harris

On 21 February 2001, Mr R. McIreigh and I examined a nesting aggregation of *Podagritus digyalos* on the Pisa Range, Central Otago (CO), at 1450 m, near the upper Roaring Meg River, beside Meadow Hut. Eleven wasps would emerge from their burrows in horizontal soil and fly to an area of low native grass where they would hawk, in unison, for small acalypterate Diptera which were taken to the nests. One nest had the main burrow almost vertical, 2.4 mm wide, with two terminal cells. It was very similar to the *P. chambersi* nests described above and also resembled

the nest described in Harris (1994), but differed greatly from the two *P. digyalos* nests described in Harris (2000), which were made in close proximity to *P. parrotti* nests.

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