

## A new genus and species of New Zealand Carposinidae (Lepidoptera)

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**Abstract** The carposinid genus *Ctenarchis* nov. (previously known as “*Ctenarchis* Meyrick”, a nomen nudum) is formalised and described. The only species known, *Ct. cramboides* is described, and its head, wing venation, and genitalia are illustrated. *Ctenarchis*, like *Tesuquea* Klots, is unusual in Carposinidae in having the gnathos arms fused apically to form a V-shaped organ.

**Keywords** Lepidoptera; Carposinidae; *Ctenarchis cramboides* new genus and species; classification

### INTRODUCTION

The purpose of this short paper is to formalise a manuscript name inadvertently used by Diakonoff (1989: 12) in his revision of Palaearctic Carposinidae. Dr Diakonoff used the name “*Ctenarchis*”, erroneously ascribing it to Meyrick, in his discussion of Carposinidae morphology, thus creating a nomen nudum. This confusion originates in a letter from me to Dr Diakonoff, 8 July 1986 – “...*Ctenarchis*” ms. name...” – referring to a very large carposinid with distinctive antennae and male genitalia.

In order to clear up possible confusion, the genus *Ctenarchis* and its only known member are described here.

### DESCRIPTION

#### CARPOSINIDAE

(sensu Davis 1969: 11–12; Diakonoff 1989: 10–17)

#### *Ctenarchis* Dugdale, new genus

“*Ctenarchis* Meyrick” Diakonoff 1989: 12, nomen nudum

Large moths (wingspan >40 mm) of crambiform facies (Fig. 1); male antennal segments (Fig. 2) tripectinate, each pectination fringed with a fascicle of coarse, stiffly undulate setae; female antennal segments simple, setulose. Head (Fig. 3) with vertex tumid, somewhat narrowed laterally and slightly projecting over inter-antennal sulcus. Maxillary palpi (Fig. 4) 4-segmented, with apical segment minute, 3rd segment enlarged, globose, scaled. Labial palpus very long in both sexes, 2nd segment length 3× eye width in lateral view, 3rd segment slender, with vom Rath’s organ apical.

Wing venation as in Fig. 5; both sexes with a hindwing cubital pecten; forewing with R veins all separate, and chorda stumps and scattered setulae present.

**Male genitalia** (Fig. 6–8). Intersegmental membrane between sternum VIII and vinculum with paired, ventrolateral coremata (Fig. 8); tegumen unelaborated laterally, pedunculus not overshadowing tegumen/vinculum articulation; gnathos as 2 arms fused apically to form a “normal lepidopterous” V-shaped organ; setulose socii apparently absent; uncus dorsally membranous, slender, long, beak-like; transtilla present; juxta chordate, with small dorsal lobes and flanked by 2 setose, rounded tubercles; valvae elongate, largely simple, with a complex saccular region on basal third; aedeagus (Fig. 7) typically carposinoid (caecum penis long), bilobate apically, with lateral, outwardly directed spinules, vitta absent.

**Female genitalia** (Fig. 9, 10). Tergum VIII tapering anteriorly, strongly sclerotised; sternum VIII separate, oblong; sterigma complex, with lateral and ventral lobes; ductus seminalis arising dorsally just

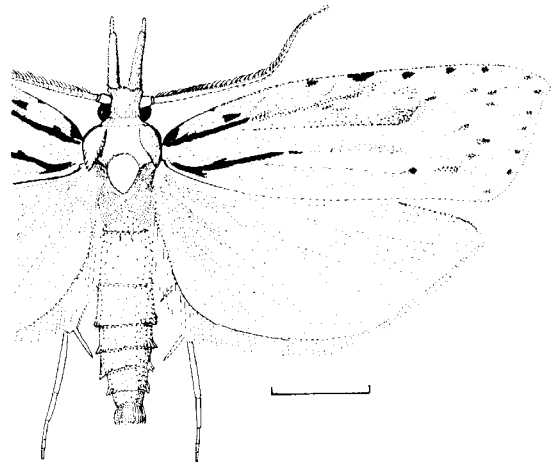
anterior to the typically microscobinate collicular area; spermatheca (not figured) with duct uncoiled, lagena absent; corpus bursae with paired, double-horned spinulose signa, each horn with a separate orifice (Fig. 9).

**TYPE SPECIES:** *Ctenarchis cramboides* Dugdale, new species.

**REMARKS:** *Tesuquea* Klots (Davis 1969: 9) and *Ctenarchis* are the only carposinids known to have a V-shaped gnathos. In all other illustrated carposinids the gnathos arms are free, either as a finger-like, often outwardly directed structure (e.g., *Carposina*, Davis 1969: 9, 14; Diakonoff 1989, especially fig. 11, 13, 14, 16, 18), or as complex plates, lobes, or tubercles apparently on the tegumen lateral margin (e.g., *Blipta*, Diakonoff 1954: 150; *Heterocrossa* [as *Carposina*], Philpott 1928: fig. 1–11; *Glaphyrarcha* Meyrick); or absent (e.g., *Bondia* sensu Davis 1969: 9, 42).

The maxillary palpus and male genital characters of *Ctenarchis* resemble those of some genera of Copromorphidae (e.g., *Ellabella* Busck (see Heppner 1984)), which also has 4-segmented maxillary palpi and well-developed intersegmental coremata, and *Lotisma* Busck, with very similar genitalia structure, particularly of the uncus, transtilla, and valva (cf. Fig. 8 and Heppner 1986: fig. 10–13). These resemblances are not corroborated by wing venation or female genitalia, except that in *Ellabella*, tergum VIII is also anteriorly acuminate.

*Ctenarchis* differs from other described carposinid genera in having complexly tripectinate antennal segments in the male. *Ctenarchis* also differs from other New Zealand genera in its 4-segmented maxillary palpi (3-segmented in *Heterocrossa*, cf. Philpott 1927: 737, obscurely 2-segmented in *Paramorpha marginata* Philpott), the anteriorly produced vertex, large size (only *Glaphyrarcha euthrepta* Meyrick is near, at 35–40 mm wingspan, but the wings are broader and the male genitalia, as in the Papuan genus *Blipta*, have separate, complex gnathos lobes), and the presence of a hindwing cubital pecten in the male (absent in *Heterocrossa*). From most *Heterocrossa* species, *Ctenarchis* differs in having an exposed tegumen/vinculum articulation. In *Heterocrossa*, except for the doubtfully congeneric *eriphylla* Meyrick, the



**Fig. 1** *Ctenarchis cramboides* n. sp., habitus and wing pattern (scale bar = 5 mm).

articulation is obscured by the overhanging and incurved pedunculus.

The name *Ctenarchis* refers to the pectinate antenna (*kteinos*, a comb, Greek and “-archis”, a conventional carposinid suffix; feminine).

The genus includes only the one species, described below.

***Ctenarchis cramboides*** Dugdale, new species  
(Fig. 1–10)

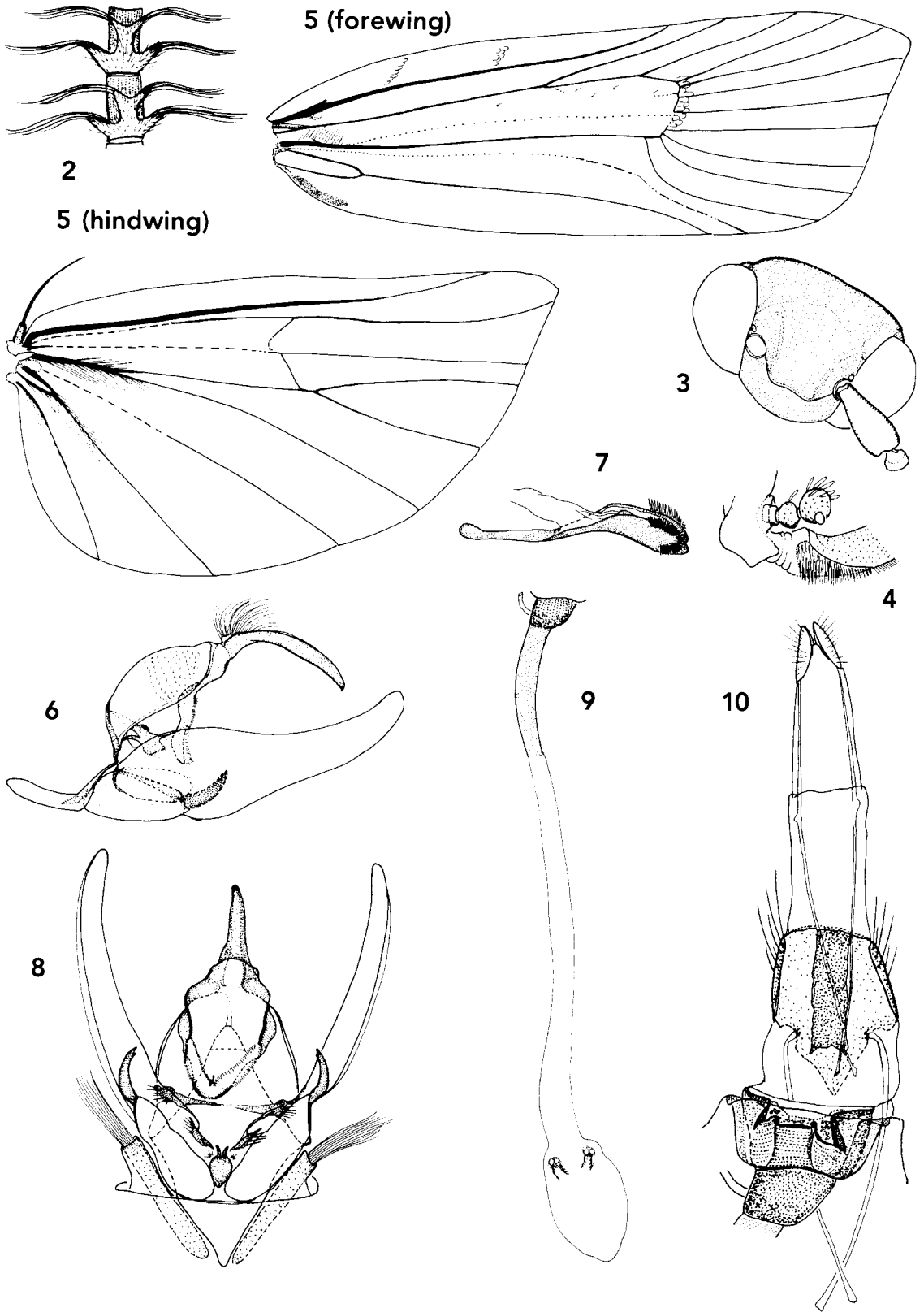
Wingspan: 35–40 mm (males), 50 mm (female).

**Colour pattern** (Fig. 1): Forewings creamy white, with small sparse costal and subterminal maculations in brown, and 2 short longitudinal streaks, 1 basally on the costa, the other, longer, arising basally on vein A and ending along vein CuP at about one-third winglength; head, thorax, and abdomen creamy white; labial palpi dark brown laterally; hindwings grey-buff, darker brown-grey in female.

**Structure:** Labial palpi very long in both sexes, with total length 4× eye width. Forewings with obscure tufts of raised scales, 1 at discal cell apex, and 1–3 evident in costal cell. Hindwings with cubital pecten in male as long as anal vein pecten.

**Male genitalia** (Fig. 6–8) and **female genitalia** (Fig. 9, 10) as in generic description.

**Fig. 2–10** *Ctenarchis cramboides*: **2**, male antennal segments 11, 12, ventral view; **3**, head, dorsal view; **4**, maxillary palpi; **5**, wing venation; **6**, male genitalia, lateral view; **7**, aedeagus, lateral view; **8**, male genitalia, posteroventral view; **9**, female genitalia: bursa copulatrix; **10**, female genitalia: sterigma and post abdomen, ventral view.



**HOLOTYPE:** HT male "New Zealand AK Spraggs Bush, Scenic Drive Waitakere Ra. 9 March 1984" "J.S.Dugdale & C.J.Green" "Holotype m *Ctenarchis cramboides* Dugdale", in Type Collection, New Zealand Arthropod Collection (NZAC), Landcare Research New Zealand, Mt Albert Research Centre, Auckland.

**MATERIAL EXAMINED:** HT ♂; and 10 paratypes (9♂♂ and 1♀), NZAC: AK: 6♂, Titirangi, ex light trap, January, February, March, July, December, 1953, C.R. Thomas; 1♂, "Waitakere Hills", 27 June 1959, J.S. Armstrong; 2♂♂ Titirangi, to light, 24 March 1979 and June 1979, March 1985, O. Hope, P.A. Maddison; 1♀ Woodlands Park, Titirangi, malaise trap, Dec. 1980, P.A. Maddison.

**Additional specimens:** ND: 1♂ Waipoua Forest, malaise trap, 20 March 1978, S.B. Peck; AK: 2♂♂, Pukekohe, late Feb. and 3 March 1992. T. Herman (NZAC).

**REMARKS:** This conspicuous, relatively large carposinid is known from few localities, all north of the Auckland isthmus (the acronyms AK and ND refer to regions as defined by Crosby et al. 1976). Adults were collected in January (2), February (1), March (4), June (2), July (1), and December (2). There are no clues as to the host of this species. The female collected in a malaise trap at Woodlands Park was collected into alcohol, and the wing condition (fully scaled but distorted) suggests that it was teneral. The malaise trap was beside a large, mature cabbage tree (*Cordyline australis*) in a garden.

Whereas the almost equally large *Glaphyrarcha euthrepta* rests in a typically carposinid fashion (wings scarcely overlapping, largely flat), *Ctenarchis* rests in a more crambiform fashion (wings partly overlapping, largely wrapping the body). The adult bears a passing resemblance to the equally large crambid *Orocrambus angustipennis* (Zeller), the larva of which feeds on the tiller bases of *Cortaderia* species (toetoe, Poaceae).

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