

Revision of the Australian species of *Hydropeza* Sinclair (Diptera: Empididae: Ragadinae subfam. nov.)

BRADLEY J. SINCLAIR

Canadian National Collection of Insects and Canadian Food Inspection Agency,
K.W. Neatby Bldg., C.E.F., 960 Carling Ave., Ottawa, ON, Canada K1A 0C6, Canada
bradley.sinclair@inspection.gc.ca

ABSTRACT. Nine new species of *Hydropeza* Sinclair from Australia are described (*H. angulata* sp. nov. (N. Queensland), *H. aptera* sp. nov. (Tasmania), *H. cornuta* sp. nov. (Queensland), *H. curvata* sp. nov. (N. Queensland), *H. divaricata* sp. nov. (N. Queensland), *H. intricata* sp. nov. (N. Queensland), *H. queenslandensis* sp. nov. (N. Queensland), *H. tasmanica* sp. nov. (Tasmania), *H. unguicula* sp. nov. (Tasmania)). In Australia, *Hydropeza* is currently widely disjunct in distribution, known only from Tasmania and northern Queensland (Wet Tropics), absent from intervening regions despite extensive surveys of rocky streams and creeks. The male terminalia are illustrated, distributions mapped and a key to species is presented. The subfamily Ragadinae subfam. nov. is proposed for the *Ragas*-group of genera (*Dipsomyia* Bezzi, *Hormopeza* Zetterstedt, *Hydropeza*, *Ragas* Walker, *Zanclotus* Wilder). A revised phylogeny of the species of *Hydropeza*, including species from New Zealand and Chile, is presented and discussed.

KEYWORDS. Diptera; Empididae; *Hydropeza*; new species; taxonomy; Australia

SINCLAIR, BRADLEY J. 2016. Revision of the Australian species of *Hydropeza* Sinclair (Diptera: Empididae: Ragadinae). *Records of the Australian Museum* 68(1): 1–22.

The genus *Hydropeza* Sinclair was erected for a New Zealand species described by Miller (1923), which was originally assigned to the Northern Hemisphere genus *Trichopeza* Rondani (Sinclair, 1999). There are ten New Zealand species and a single species described from Chile (Sinclair & McLellan, 2004; Sinclair & Plant, 2008).

In Australia, *Hydropeza* was initially recognized from a large-sized undescribed Tasmanian species collected from streams and rivers (Fig. 5). More recently this genus was discovered from northern Queensland, where a series of new species are represented. The apparent rarity of the genus is in part likely due to the curious habit of the adults which fly rapidly about small cascades and pools with all

six legs skimming on the water surface, making them hard to see especially in shaded streams and very difficult to capture with sweep nets. The author used small dip nets to collect individuals, which were virtually invisible at the base of small cascades. In addition, the use of lights set next to streams, Malaise traps set across streams, as well as pitfall traps and yellow pan traps have proven effective in capturing specimens. This paper reports on the Australian biotic diversity of *Hydropeza* for the first time.

Hydropeza is assigned to the *Ragas* genus-group (Sinclair & Cumming, 2006), which is herein elevated to subfamily rank. The new subfamily is newly diagnosed and discussed.