



A new species of moth fly (Diptera, Psychodidae, Psychodinae) collected from Bromeliads in Florida

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In recent years several Neotropical Psychodidae Psychodinae were collected from Bromeliaceae. These plants are a kind of aquatic microcosmos and harbour a diverse and probably specialized fauna (Frank & Lounibos 2009, Kitching 2000, Richardson 1999). Quite a number of psychodids collected from Bromeliaceae is from genus *Arisemus* (Satchell, 1955). In some cases adults were reared from larvae collected in bromeliads, so that both stages were associated Wagner et al. 2008; Wagner et al. accepted. From some other species and genera it is known or supposed that their habitat is related to bromeliads (more information in Quate & Brown 2004, Frank et al. 2004). Additional information with description of a new species can be found in Wagner & Hribar (2005). Remarkably one newly described species was transported with a bromeliad from Brazil via the Netherlands to Sweden, where larvae or eggs developed to the adult stage and were collected in a terrarium (Wagner & Svensson 2006). So it appears that the small water bodies in tank bromeliads and other plants or the high atmospheric humidity in the environment of *Tillandsia* plants provide a sufficient environment for successful development of psychodids, at least in the Neotropical region. Here we report about another new species collected from bromeliads in Florida that belongs to the remarkable genus *Neurosystasis* Satchell, 1955, of which so far only two species were known: *N. terminalis* (Satchell, 1955) from Jamaica, and *N. amplipenna* (Knab, 1914) from Cuba. Quate & Brown (2004) mentioned 3 females from Orange County Florida, U.S.A. collected from *Tillandsia utriculata* (Bromeliaceae) where larvae live in the leaf axils. Most probably these females are not *N. amplipenna* (Knab, 1914) but belong to the new species described below.

Material and methods

Adults were reared from field-collected larvae, cleared in acetic acid and phenol, and slide mounted in Euparal. Drawings were prepared with a drawing mirror on a Leitz Dialux 20 EB at 45x, 100x, and 200x magnification. Type specimens remain in the collection of the senior author at Kassel University that will later be donated to a museum.

Psychodidae, Psychodinae

Neurosystasis bromeliphila sp. nov.

Telmatoscopus (*Neurosystasis*) Satchell, 1955: 86.

Neurosystasis Duckhouse, 1974: 142.

Type species: *Telmatoscopus* (*Neurosystasis*) *terminalis* Satchell, by original designation

Material : 1 ♂ (holotype) U.S.A., Florida, Monroe County, Vaca Key, 26 January 2009 ex. Bromeliad. GPS coordinates 24.726737 - 81.062422; paratypes, 2 ♀, with holotype; all leg. C. Samul.

Etymology: likes bromeliads

Male description: Head poorly preserved so that the amount of facet rows cannot properly be recognized (most probably 3). Eyes not contiguous. Antennae 16-segmented, scapus barrel-shaped, pedicellus spherical, flagellum with 14 bottle-shaped flagellomeres. Relative length of ‘antennal segments’: 1.00 - 1.77 - 1.59 - 2.18 - 2.05 - 2.05 - 2.14 - 2.14 - 2.14 - 2.18 - 2.18 - 2.14 - 2.18 - 1.64 - 1.14 - 0.68. Ascoids on flagellomeres non-existent or indistinguishable from hairs and setae. Palpus three-segmented, relative length of segments: 1 - 0.93 - 1.07.