

**A new *Anagrus* (*Anagrella*) (Hymenoptera Mymaridae),  
apparently associated with psocid eggs**

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**Abstract**

*Anagrus* (*Anagrella*) *mockfordi* S. TRIAPITSYN sp.n. is described and illustrated from Illinois, U.S.A. The type material of the new species was found by the collector, E.L. MOCKFORD, in association with the psocid *Echmepteryx hageni* (PACKARD, 1870) (Psocoptera Lepidopsocidae). This is the first formal record of the subgenus *Anagrella* BAKKENDORF, 1962 in North America.

**Keywords :** Mymaridae, *Anagrus*, new species, egg parasitoid, *Echmepteryx hageni*.

**Introduction**

Among the specimens of the mymarid wasp genus *Anagrus* HALIDAY, 1833 present in the Canadian National Collections of Insects (CNCI) in Ottawa, two have proven to belong to a previously undescribed species in the subgenus *Anagrella* BAKKENDORF, 1962. I was thus incorrect (TRIAPITSYN, 1997) in stating that *Anagrella* had not been found from the New World; rather, it was not formally recorded there. Besides the new species described in this paper, I have seen other species of *Anagrella* from Central America (unpublished data). The subgenus was diagnosed in detail by CHIAPPINI *et al.* (1996) and later by CHIAPPINI & LIN (1998) based on the Palearctic and Oriental material. *Anagrella* species are rarely found in the collections, but may be not that uncommon in certain regions like eastern tropical Africa or far eastern Palearctic and Oriental regions. They appear to be collected mainly in humid environments.

According to the collector (E.L. MOCKFORD, personal communication), two specimens described here were found in association with the culture of the psocid *Echmepteryx hageni* (PACKARD, 1870) (family Lepidopsocidae), while attempting to re-establish the colony of another mymarid, *Dicopomorpha ech-*

*mepterygis* MOCKFORD, 1997. The latter species was proven to be an egg parasitoid of *E. hageni* (MOCKFORD, 1997). Unfortunately, no host material was found in the culture tube in which the new *Anagrus* (*Anagrella*) species was discovered (E.L. MOCKFORD, personal communication). Therefore, one cannot be absolutely sure that the host-parasitoid association as indicated on the label is correct. Host associations of other described *Anagrella* species are unknown. *Anagrus* species, unlike some members of the mymarid genus *Alaptus* WESTWOOD, 1839, have not been recorded previously from the eggs of Psocoptera (HUBER, 1986).

Terminology used and the choice of morphological features measured follow CHIAPPINI & LIN (1998). Abbreviation used is : F = antennal funicular segment.

### Genus *Anagrus* HALIDAY, 1833

CHIAPPINI *et al.* (1996) provided a key to the Holarctic species of *Anagrus* and diagnosed the genus and its subgeneric groups. The below key serves as an update of the key to *Anagrus* (*Anagrella*) species by CHIAPPINI *et al.* (1996), adding two species to the list of known taxa belonging to *Anagrella* in the Holarctic region.

#### Key to Holarctic species of *Anagrus* (*Anagrella*), females

- 1 F5 without sensory ridges ..... 2
- 1' F5 with one sensory ridge ..... 3
- 2 F2 longer than club (China, Japan, Russia) ..... *A. hirashimai* SAHAD
- 2' F2 shorter than club (USA) ..... *A. mockfordi* S. TRIAPITSYN sp.n.
- 3 Ovipositor projecting beyond apex of metasoma by about half of its total length (France, Italy, Switzerland) ..... *A. mymaricornis* (BAKKENDORF)
- 3' Ovipositor projecting beyond apex of metasoma by less than half of its total length ..... 4
- 4 F1 longer than following funicular segments excluding F2 (China) .....  
..... *A. semiglabrus* CHIAPPINI & LIN
- 4' F1 shorter than all following funicular segments (Bulgaria) .....  
..... *A. rilensis* DONEV

#### *Anagrus* (*Anagrella*) *mockfordi* S. TRIAPITSYN sp.n.

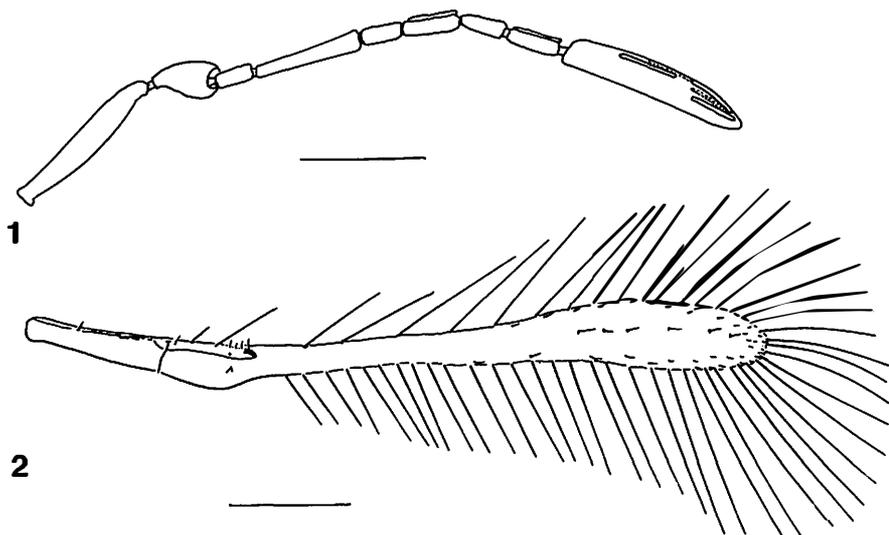
##### *Type material* :

Holotype female, labeled : 1."*Anagrus* (*Anagrella*) *mockfordi* S. Triapitsyn ♀ Holotype"; 2."USA : IL, McLean Co. Normal, 11.X.1995 E. L. Mockford"; 3."ex. *Echm. hageni* on bark, Parkland[s] Fdm. [Foundation] Merwin [Merwyn] Reserve coll. 27.IX.1995"; 4."Slide-mounted in Canada balsam by V. Berezovskiy 1999"; 5."CNCI". Paratype : same data as holotype, 1 female on point. Both holotype and paratype deposited in CNCI.

*Description*

Female. *Color* : head, pronotum, mesoscutum and metasoma (except apex) dark brown; scutellum, apex of metasoma and appendages light brown to brown; remainder of mesosoma white. *Head* : about as wide as mesosoma. Antenna (Fig. 1) sparsely setose; scape rather long for genus, slightly shorter than club; pedicel longer than F1, which is shortest of funicle segments; F2 longest of funiculars; F3 and F5 each shorter than following segment, without sensory ridges; F4 and F6 with one sensory ridge each; club large, longer than F2 or combined length of three preceding segments, with five sensory ridges. *Mesosoma* : 0.76 × as long as metasoma. Mesoscutum with a pair of adnotaular setae. Forewing (Fig. 2) slightly shorter than body; 11.1 × as long as wide; disk bare except for six setae arranged in a row in middle of its apical part. Lengths of distal and proximal macrochaetae in ratio 3.5 : 1. Hindwing disk asetose except a complete row of small setae along posterior margin and a few setae along anterior margin on its distal half. *Metasoma* : Ovipositor moderately long, anteriorly overlapping mesophragma, posteriorly markedly exerted beyond apex of metasoma. Ratio of total ovipositor length to length of its exerted part 5.6 : 1. External plates of ovipositor each with three setae. Ovipositor length/ foretibia length ratio 2.6 : 1.

*Measurements* of the holotype, in microns ( $\mu\text{m}$ ), as length (/width) : Body : 657; Ovipositor : 347. Antenna : Scape : 142; Pedicel : 53; F1 : 30; F2 : 92; F3 : 35; F4 : 47; F5 : 40; F6 : 50; Club : 155. Forewing : 612/55; Proximal macrochaeta : 22; Distal macrochaeta : 78; Longest marginal cilia : 179. Hindwing : 576/18; Longest marginal cilia : 146. Legs (given as Femur, Tibia, Tarsus) : Fore : 135, 131, 168; Middle : 121, 186, 164; Hind : 121, 226, 186.



Figs 1-2. *Anagrus mockfordi* sp.n. (holotype female). 1 : Antenna; 2 : Forewing. Scale bars = 0.1 mm.

*Male.* Unknown.

*Etymology* : This species is named after the collector, Dr. Edward L. MOCKFORD.

*Diagnosis* : The new species is easily distinguished from all other described species in the subgenus *Anagrella* that lack sensory ridges on F5 of the female antenna (i.e., *A. funebris* MATHOT, *A. hirashimai* SAHAD, and *A. humicola* MATHOT) by the combination of the following antennal characters : F2 markedly shorter than club and F1 shorter than pedicel.

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