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A NEW GENUS OF ICHNEUMON-FLIES OF THE SUBTRIBE BARYCEROTINA (HYMENOPTERA: ICHNEUMONIDAE: CRYPTINAE) FROM MEXICO

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ABSTRACT

In the subtribe Barycerotina (Ichneumonidae, Cryptinae) a new genus of ichneumon-flies, *Khalaimia* gen. nov. with the type species *Khalaimia mexicana* sp. nov., is described from Mexico.

Key words: Cryptinae, Hymenoptera, Ichneumonidae, *Khalaimia*, Mexico, Neotropical Region, new genus, new species

НОВЫЙ РОД НАЕЗДНИКОВ-ИХНЕВМОНИД ПОДТРИБЫ BARYCEROTINA (HYMENOPTERA: ICHNEUMONIDAE: CRYPTINAE) ИЗ МЕКСИКИ

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РЕЗЮМЕ

В подтрибе Barycerotina (Ichneumonidae, Cryptinae) описывается из Мексики новый род наездников-ихневмонид *Khalaimia* gen. nov. с типовым видом *Khalaimia mexicana* sp. nov.

Ключевые слова: Cryptinae, Hymenoptera, Ichneumonidae, *Khalaimia*, Мексика, Неотропическая Область, новый род, новый вид

INTRODUCTION

The small subtribe Barycerotina Townes, 1961 has until now included 11 genera distributed mainly in the tropics and the southern part of the Holarctic region (Townes 1970; Yu et al. 2005). In the Neotropical Region three genera were known (Townes and Townes 1966); all of them were recorded from Mexico (Kasparyan and Ruíz 2005). Here the fourth Neotropical genus of the subtribe, *Khalaimia* gen. nov. with type species *Kh. mexicana* sp. nov., is described from Mexico. The representatives of Baryceratina can easily be distinguished from other Cryptinae Kirby, 1837 by their ovipositor with a series of teeth

or oblique ridges on the upper valve (Fig. 7), and by mandibles that are short, strongly narrowed to the apex and with the upper tooth distinctly longer than the lower tooth. Some species of this subtribe have been reared from hard-walled cocoons of Limacodidae (Lepidoptera) (Gauld 1987; Yu et al. 2005).

MATERIAL AND METHODS

The paper is based on material collected by Andrey Khalaim in Mexico. The holotype is deposited in the ichneumonid collection of the Universidad Autónoma de Tamaulipas, Cd. Victoria, Mexico [UAT] and

two paratypes in the Zoological Institute of Russian Academy of Sciences, Saint Petersburg, Russia [ZIN] and Natural History Museum, London, UK [NHM].

TAXONOMY

Family Ichneumonidae Latreille, 1802

Subfamily Cryptinae Kirby, 1837

Tribe Cryptini Kirby, 1837

Subtribe Baryceratina Townes, 1961

***Khalaimia* gen. nov.**

(Figs 1–12)

Etymology. The genus is named in honour of Andrey Khalaim who collected this species and in recognition of his long-term work on the Mexican fauna of Ichneumonidae.

Type species: *Khalaimia mexicana* sp. nov.

Description. Fore wing about 5–6 mm long. Body short, moderately stout. Antenna with about 26–30 flagellomeres; apical half of flagellum slightly widened, subcylindric; flagellomeres from 11 to subapical one subquadrate or transverse in profile. Frons without horn or lateral carina. Mandible rather short, strongly tapered to apex, its lower tooth slightly shorter than upper tooth. Epomia long, ventrally paralleling front margin of pronotum, its upper end curved mesad. Upper margin of pronotum not swollen; pronotum beyond epomia densely covered with coarse rugae. Thorax with moderately small dense punctures, partly finely rugulose. Mesoscutum and scutellum weakly convex. Notauli hardly visible, indicated only by sculpture. Dorsal end of prepectal carina reaching hind margin of pronotum near its middle. Mesopleural fovea close to mesopleural suture and connected with it by a shallow groove. Sternaulus about 0.65 as long as mesopleuron, rather deep and broad. Postpectal carina entirely absent. Transverse groove at base of propodeum narrow and deep. Propodeum short and high; basal transverse carina complete; apical transverse carina represented by a pair of strong lateral crests (Fig. 4). Propodeal spiracle about 2.5 times as long as wide.

Fore wing with areolet very large, about 0.8 times as long as second recurrent vein, receiving second recurrent vein at middle (Fig. 5), distal *rm* obliterated; nervellus interstitial. Hind wing with mediocubitella weakly convex in its apical 0.6; nervellus intercepted near lower 0.2, brachiella present (Fig. 6); tip of

axillus converging toward anal margin of hind wing. Hind coxa large, its base deep. Fourth tarsal segment of female bilobed at apex.

First tergite slender, its spiracle in apical 0.3 of tergite (Fig. 1), extreme base widened but without distinct lateral tooth; longitudinal carinae of petiole weak or absent, dorsolateral carinae on postpetiole distinct; petiole smooth. Thyridium suboval. Tergites 2–4 evenly and finely granulate and with very fine hardly visible dense punctures bearing short hairs. Ovipositor sheath about 0.9 times as long as hind tibia; tip of ovipositor as in Fig. 7.

Comparison. *Khalaimia* gen. nov. belongs to a New World, predominantly Neotropical group of three genera: *Baryceros* Gravenhorst, 1829, *Lamprocryptidea* Viereck, 1913 and *Whymperia* Cameron, 1903. All these genera differ from other Baryceratina genera mainly in the enlarged apical half of the antenna. *Khalaimia* gen. nov. differs from *Baryceros* and *Lamprocryptidea* in having: (1) median portion of postpectal carina absent; (2) mediocubitella weakly arched; (3) apical part of axillus convergent toward anal margin of hind wing; (4) areolet large; and (5) apical carina of propodeum widely interrupted medially and represented by a pair of sublateral crests. Besides *Khalaimia* gen. nov., these characters (1–5) are also present in *Whymperia*, but *Khalaimia* gen. nov. differs from this genus in: (6) frons smooth, without sublateral carinae (suborbital carinae on the frons is an autapomorphy of *Whymperia*); (7) nervellus intercepted far below the middle; (8) epomia present and long; (9) propodeal spiracle about 2.5 times as long as wide (3.5 times in *Whymperia*); (10) first tergite without a lateral tooth at base; (11) smaller size.

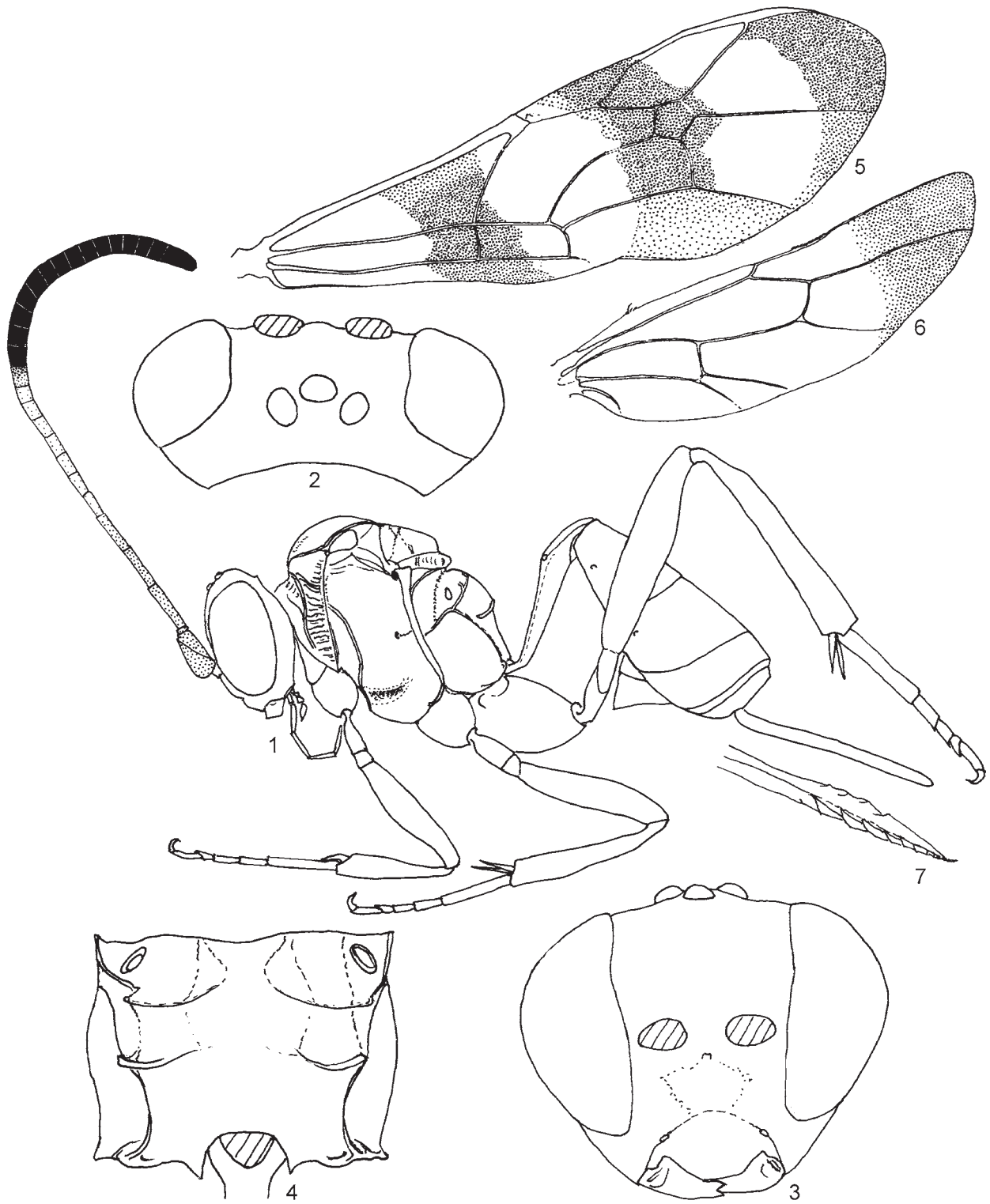
***Khalaimia mexicana* Kasparyan sp. nov.**

(Figs 1–12)

Holotype. Female – MEXICO, Veracruz, Jalapa, park near Institute of Ecology, 1260 m, N 19°30.768', W 96°56.349', 17–18 February 2009 (A.I. Khalaim) (TAMU).

Paratypes. Two males with the same label data as the holotype (NHM, ZIN).

Diagnosis. Almost entirely reddish-rufous species with three distinct brownish bands on the fore wing (Figs 1, 5, 8). In habitus and in colouration of body and wings *K. mexicana* sp. nov. is very similar to another barycerotine – *Whymperia ferrugata* Kasparyan et Ruíz, 2005 (Fig. 13).



Figs 1–7. *Khalaimia mexicana* sp. nov., female (holotype): 1, female, lateral view; 2, fore wing; 3, hind wing; 4, head, dorsal view; 5, head, anterior view; 6, propodeum, dorsal view; 7, apical part of ovipositor.



Figs. 8–11. *Khalaimia mexicana* sp. nov., male (paratype). 8, whole insect, dorsal view; 9, antenna, frontal view; 10, head, frontal view; 11, mesosoma, dorsoposterior view.



Figs. 12–13. *Khalaimia mexicana* sp. nov., male (paratype) (12), *Whymeria ferrugata* Kasparyan et Ruíz, 2005, male (13). 12, wings, dorsal view; 13, whole insect, lateral view.

Description. *Female* (holotype). Fore wing 5.6 mm long. Antenna with 26 flagellar segments. Two basal flagellomeres thick, subequal, about 4.5 times as long as wide and combined about 0.95 times as long as maximum diameter of eye; flagellomeres 11–25 subquadrate or slightly transverse in profile; apical flagellomere about 2 times as long as wide (Fig. 1). Head strongly narrowed beyond the eyes (Fig. 2). Clypeus moderately convex and rather high, about 0.75 times as high as distance between clypeal foveae (Fig. 3), its lower margin truncate and moderately sharp (very sharp in lateral portion). Malar space 0.75 times as long as basal width of mandible. Occipital carina complete, joining hypostomal carina some distance above base of mandible. Thorax more or less evenly covered with dense and moderately small punctures, and partly rugulose. Epomia long with its upper end curved to middle of collar. Mesoscutum weakly convex. Notauli very weak. Sternaulus deep, about 0.65 times as long as mesopleuron, its hind end upcurved and shallow. Prescutellar groove deep, crenulate (with about 5 strong transverse carinae). Scutellum with distinct lateral carina in its basal 0.6. Wing venation as in Figs 5, 6. Hind coxa and femur closely covered with distinct moderately small punctures. Propodeum short, in basal part rather smooth with dense moderately small punctures, beyond basal transverse carina irregularly rugulose. Petiole of first metasomal segment long, smooth, without distinct longitudinal carinae; postpetiole finely granulate with sparse fine punctures, its dorsolateral carinae rather sharp; sternite extending to about middle of postpetiole. Tergites (4)5–8 strongly retracted (Fig. 1). Ovipositor sheath about 0.9 times as long as hind tibia.

Body reddish rufous. Scape, pedicel and flagellomeres 1–3 pale rufous, flagellomeres 4–10 yellowish white, 11–26 – blackish brown (Fig. 1). Mandibles yellowish with brownish teeth. Palpi and tegulae reddish yellow. Front edge of prepectus, small spot on mesopleuron just below the tegulae, epimeron in its lower 0.65, mesosternal and prescutellar sutures, transverse groove before propodeum, metasternum and hind edge of propodeum black. Pterostigma in proximal half yellow, its distal half dark brown. Fore wing hyaline with three dark bands (Fig. 5); hind

wing only with apical fuscous band (Fig. 6). Hind tarsus pale yellow with base of basitarsus and entirely tarsomere 5 rufous. Ovipositor sheath dull rufous.

Male (paratype). Similar to female in main structural features and in colouration (Figs 8–12). Antenna with 30 flagellar segments; flagellomeres 17–20 with a linear tyloid. Flagellum in apical 0.2 distinctly tapered to apex (setiform); two basal flagellomeres thick, subequal, about 3.0 times as long as wide and combined about 0.9 as long as maximum diameter of eye. Scape, pedicel and flagellomeres 1–2(–4) pale reddish, flagellomeres 3(–5) to 10 blackish brown, 11–15 white and 16–30 blackish. Face and clypeus whitish yellow; dark bands on fore wing weaker than in female, basal band not extending to fore wing margin.

Comparison. As given for the genus.

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