**COMPSOCRYPTUS OF THE NORTHERN CARIBBEAN WITH DESCRIPTION OF A NEW SPECIES FROM HISPANIOLA**  
**HYMENOPTERA: ICHNEUMONIDAE**

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**ABSTRACT**

*Compsocryptus* (Ichneumonidae: Mesostenini) is centered in the Sonoran Region of western North America and Middle America but has disjunct species in southern South America, in Florida, and on some of the northern Antilles. *Compsocryptus stagnoi* n. sp. is the 1st *Compsocryptus* reported from Hispaniola. It differs from other Caribbean and south Floridian congeners by the following combination of characters: body shining black, wings dark with yellow blotches, gaster red, and thorax generally shining with narrow but prominent smooth intervals among the punctures. *Compsocryptus fascipennis* (Brullé) of Florida and Cuba has yellow wing markings but a uniformly blue-black ground color on the gaster, mesosoma, and head. *Compsocryptus orientalis* Alayo & Tzankov (described from Cuba and here cited also from the Bahamas) has the wings almost uniformly dark and a subdued bluish-purple ground color. In both the foregoing species the thoracic punctures are dense with inconspicuous smooth interspaces.

**RESUMEN**

*Compsocryptus* (Ichneumonidae: Mesostenini) alcanza su máxima diversidad en la Región Sonorense del oeste de Norteamérica y en Mesoamérica. Tiene, además, especies aisladas en el sur de Sudamérica, en Florida, y en varias islas del Mar Caribe. *Compsocryptus stagnoi* n. sp. es el primer *Compsocryptus* de ser reportado de Hispaniola. Se diferencia de otras especies geográficamente vecinas por la siguiente combinación de características: cuerpo negro brillante, alas oscuras con manchas amarillas, gaster rojo, y el tórax en general reluciente debido a la presencia de intervalos lisos estrechos pero conspicuos entre los punctos. *Compsocryptus fascipennis* (Brullé) de Florida y Cuba tiene las alas con manchas amarillas pero el gaster, mesosoma y la cabeza son de un color uniforme negro-azulado. *Compsocryptus orientalis* Alayo & Tzankov (descrito de Cuba pero aquí citado también de las Bahamas) se destaca por sus alas casi totalmente negras y el color algo purpúreo-azulado del cuerpo. En ambas especies antecedentes, el punteado del tórax es tan denso, que revela muy pocos intervalos lisos.

**GENUS COMPSOCRYPTUS ASHMEAD**

This conspicuous genus, recently diagnosed by Townes (1962) and by Porter (1986), can be recognized by its upcurved ovipositor, nearly square areollet in which the anterior veinlet is about as long as the mesal veinlet, and by having the axillus vein as close to the submediella as to the posterior margin of its wing.
Although most diverse in the Sonoran Biogeographic Province, _Compsocryptus_ has presumably relict species in south Florida and on several north Caribbean islands, in addition to _C. fuscofasciatus_ (Brullé) of the Peruvian Coastal Desert and to _C. melanostigma_ (Brullé) of the Argentine Chaco (Porter 1986).

_Compsocryptus_ females often are collected while crawling on the ground in weedy places and probably attack lepidopterous pupae in soil or leaf litter. Indeed, the only species which has been reared, _C. melanostigma_, attacks the noctuid lepidopteran genera Alabama and Pseudoletia which do pupate at or just below ground level.

**Key to the Caribbean Species of Compsocryptus**

1. Flagellum black; gaster red; occipital carina not raised and flange-like laterally; female mesoscutum shining but with small subadjacent to adjacent punctures; male mesoscutum largely smooth and shining with many punctures separated by polished intervals; lower metapleuron shining, in female with adjacent to confluent punctures so as to appear longitudinally substrate, in male smooth and shining with large and numerous but mostly well separated punctures ........................................ 1. _Compsocryptus stangei_ n. sp.

1'. Flagellum yellow on at least basal 0.3; gaster bluish black; occipital carina laterally elevated into a definite flange; female mesoscutum sublustrous, very closely and confluent micro-puncto-reticulate; male mesoscutum densely punctate with few polished interstices; lower metapleuron of both sexes grossly puncto-reticulate ........................................ 2

2. Fore wing with a broad postmedian yellow cross band; male mesoscutum shining with narrow refugent punctural interstices; lower 0.5 of female mesopleuron strongly to coarsely puncto-reticulate but without coarse longitudinal wrinkling ........................................ 3. _Compsocryptus fuscipennis_

2'. Fore wing mostly to wholly infumate: male mesoscutum with surface dully shining and with only a few polished interstices between the very dense punctures; lower 0.5 of female mesopleuron with puncto-reticulation traversed by coarse longitudinal wrinkles ............ 2. _Compsocryptus orientalis_

1. _Compsocryptus stangei_ Porter, New Species

(Fig. 1, 2, 6)

**Female. Color.** Antenna black, duller apicad and more shining basad, with dull brown below, especially toward apex; head and mesosoma shining black except for brown staining in antennal scrobles and on mandible; gaster a little dull red with black on most of petiole, vaguely on apex of postpetiole as well as with irregularly developed blackish staining on succeeding tergites; legs with coxa, trochanter, and femur shining black with a little brown at base of femur and with tibia and tarsus dull black except for some dull brown suffusion that is best developed on fore leg; wings deeply infumate with a broad submedian yellow cross-band on fore wing extending from upper corner of median cell, across much of discocubital cell, over much of 1st brachial cell, through basal 0.5 of 2nd discoidal cell to hind margin of wing on base of 2nd brachial cell and about apical 0.3 of anal cell, as well as with a broad postmedian band which traverses hind wing at level of the intercubitalia both basad and apicad (most extensively).

**Length of fore wing;** 8.4-8.8 mm. **Flagellum:** stoutly setaceous, rather strongly flattened below on preapical segments; 1st segment 3.4-3.6 as long as deep at apex. **Temple:** at mid-height 0.460-0.64 as long as eye; strongly receding and gently rounded-off. **Occipital carina:** fine and sharp throughout, not flange-like laterally. **Clypeus:** weakly raised and a little asymmetric in profile. **Malar space:** 1.0-1.2 as long as basal width of mandi-
Fig. 1. *Compsocryptus stangei*, ♀. Lateral view of whole insect, showing habitus and color pattern. (Holotype).

Fig. 2. *Compsocryptus stangei*, ♂. Lateral view of whole insect, showing habitus and color pattern. (Paratype).

Fig. 3. *Compsocryptus fasciipennis*, ♀. Lateral view of whole insect, showing habitus and color pattern.

Fig. 4. *Compsocryptus fasciipennis*, ♂. Lateral view of whole insect, showing habitus and color pattern.

Fig. 5. *Compsocryptus orientalis*, ♀. Lateral view of entire insect, showing habitus and color pattern.
blo. Mesoscutum: surface brightly shining with very abundant small to medium sized punctures that average briefly subadjacent to adjacent but which display prominent but narrow polished interstices; notaui finely traceable about 0.1 the length of mesoscutum. Mesopleuron: disc on upper 0.5 shining, mostly with fine longitudinal striation and with small, dense, briefly subadjacent to confluent punctures which do not become coarse and on lower 0.5 with dense, strong, irregular to longitudinal wrinkles and larger, denser, and in part reticulately intercalated punctures (except becoming shinier and with well separated punctures toward prepectal carina below). Lower metapleuron: shining, with abundant, medium sized, adjacent to confluent punctures, so as to appear more or less longitudinally substrate. Propodeum: basal transcarina traceable throughout, sometimes strong and sharp and sometimes weak and irregular; apical transcarina sometimes distinct throughout and always developed sublaterally into low, asymmetrically cuneate crista; surface rather finely reticulointegument and distal of the basal transcarina. Second gastric tergite: sublustrous with uniformly developed very fine reticulocaliculation and abundant, tiny, shallow punctures, which are mostly subadjacent and emit short but extensively overlapping setae. Ovipositor: sheathed portion 0.6-0.69 as long as fore wing.

Male. Color differs from female as follows: fore and mid femur irregularly dull yellow on and near apices; fore and mid tibia pale but opaque yellow; fore and mid tarsus dull yellow on at least the basal segments; wings less deeply, more brownish infumate than in female, the fore wing often with irregular yellowish staining in proximal 0.5 of basal and adjacent cells as well as with a broad submedian yellow cross band about as in female, the hind wing rather pale brown with some yellowish toward proximal end of basellan cell and with most of its postmedian 0.9 hyaline or faintly yellowish.

Flagellum: long but rather stout, with a long taper toward apex. Malar space: 1.0 as long as basal width of mandible. Mesoscutum: largely smooth and shining with abundant but mostly well separated punctures and polished punctural interstices. Mesopleuron: on upper 0.5 of disc with extensive polished interstices separating the sharp and numerous but well spaced punctures, on lower 0.5 of disc with dense and strong irregular to longitudinal wrinkles and with larger punctures than on dorsal 0.5 which also are dense and in part reticulately confluent. Lower metapleuron: mostly smooth and polished with many large and deep punctures which are well separated on anterior 0.5 of metapleuron, but denser and mingled with longitudinal to reticulate wrinkling on the apical 0.5. Propodeum: basal transcarina often sharp and unusually high throughout; apical transcarina represented only by its sublateral crista which are small but broadly and bluntly projecting.


Relationships. Compsoecryptus stangei differs strongly from its relatives in Cuba, the Bahamas, and south Florida. Some diagnostic features include the red gaster, comparatively elongate 1st flagellomere, uniformly low occipital carina, more shining and less densely punctocuticulate mesoscutum and mesopleuron, as well as its much less strongly sculptured lower metapleuron and propodeum. Since many other Compsoecryptus differ by far less prominent characters so that "several of the species are difficult
to distinguish” (Townes 1962: 279), it may be conjectured that C. stangei has had a long evolutionary history in isolation on Hispaniola.

FIELD NOTES. The specimens collected by Miller and Stange came from semiarid scrub in which the most conspicuous plants were arborescent cacti and Acacia spp. Such habitat preference is normal for the principally xerophilous genus Compsocryptus.

SPECIFIC NAME. For Dr. Lionel A. Stange of the Florida Department of Agriculture and Consumer Services, whose vast field experience in the Neotropics continually reveals new or unexpected species.

2. Compsocryptus orientalis Alayo & Tzankov
(Fig. 5)

FEMALE. Color: scape and pedicel shining reddish to yellowish brown; flagellum yellow on segments 1-13 (apical 2-3 segments more or less dusky and 1st segment brownish based); head, mesosoma, and gaster deep purplish to bluish black with shining brown on most of mandible; fore coxa, trochanters, and femur deep purplish black with more or less of apical 0.4 of femur yellowish on its front face, fore tibia dull purplish black with much dull yellow below and anteriorly; fore tarsus shining dark brown to black; mid and hind legs mostly black, with purplish staining well developed on coxa, trochanters, and femur but duller on tibia and tarsus; fore and hind wing deeply infumate, sometimes with an inconspicuous yellow area near base of stigma.

Length of fore wing: 8.8-11.3 mm. Flagellum: stoutly setaceous and flattened below subapically; 1st segment 2.6-3.0 as long as deep at apex. Temple: at mid-height 0.73-0.78 as long as eye in lateral view. Occipital carina: elevated laterally into a conspicuous flange. Clypeus: weakly convex and about symmetrically raised in profile. Malar space: 1.0-1.2 as long as basal width of mandible. Mesoscutum: surface nearly mat with multitudinous small and sharp, adjacent to a little reticulately confluent punctures, whose interstices are cariniform; notauli traceable about 0.5 length of mesoscutum, weak. Mesopleuron: sublustrous; disc on upper 0.5 with granular puncto-reticulation and on lower 0.5 with puncto reticulate traversed by coarse longitudinal wrinkling (except for a shining and distinctly punctate area toward prepectus ventral). Lower metapleuron: very coarsely reticulo-rugose throughout. Propodeum: basal transcarina traceable throughout and areola broader than long in position; apical transcarina more or less detectable throughout and forming broad but low subcuneate cistae; whole surface distad of basal transcarina grossly reticulo-rugose. Second gastric tergite: mat, surface with uniform and very delicate micro-reticulation and innumerable tiny, shallow punctures, that emit rather long, recumbent, and much overlapping setae. Ovipositor: sheathed portion 0.71-0.79 as long as fore wing.

MALE. Color: differs from female as follows: fore tibia pale yellow; fore tarsus with 1st segment yellowish and following segments dusky; mid tibia dull blackish with pallid yellow on basal 0.3; fore wing infumate with obscure yellowish staining just below base of stigma, toward base of 2nd discoidal cell (near 1st recurrent), and a little in anal cell; hind wing more pallerly infumate than forewing, obliquely yellowish on basal 0.3 of radiellan cell and nearly hyaline on much of cubitellan and discoidellan cell, especially beyond nervellus both proximally and distally.

Occipital carina: slightly less elevated than in C. fasciipennis. Mesoscutum: surface dully shining with a few polished ridges between the punctures.


RELATIONSHIPS. Compsocryptus orientalis shares many features with the partially sympatric C. fasciipennis. The two probably may be regarded as sister species, because
Fig. 6. Compsocryptus stangei, ♀. Drawing of head and body in lateral view, showing structural details and color pattern. (Holotype).
each one morphologically is far closer to the other than to any of the rest of the known Compsopterus species. Compsopterus orientalis, nonetheless, easily may be distinguished from C. fasciipennis by its almost uniformly dark wings, slightly shorter temple, slightly less convex clypeus, duller and more strongly sculptured mesopleuron with longitudinal wrinkling on its lower 0.5, and by its moderately longer ovipositor.

Both C. orientalis and C. fasciipennis differ from C. stangei by the characters discussed under that species.

Field Notes: Avelo and Tzankov (1947) comment that C. orientalis inhabits coastal localities near Santiago de Cuba and that it flies toward evening during June and July. With exception of the 1 February record for Rum Cay, this species seems to show similar habits on the Bahamas.

Since C. fasciipennis occurs throughout the year in all parts of Cuba and has reached south Florida and the Keys (where it is most common from October to April but may be found even in summer), this species shares only a narrow zone of sympatry with C. orientalis and, even here, is but briefly synchronous with the related taxon. These Compsopterus thus show two modes of competitive exclusion and seem to have arisen allopatrically by habitat division. During late Tertiary and Pleistocene climatic fluctuations, Cuba and the Bahamas were connected overland when cooler episodes reduced the level of the ocean as more water became trapped in the Polar Ice Caps and glaciers. In contrast, warm periods allowed the ice to melt, the ocean to rise, and the Bahaman-Cuban land connection to be broken. Such events provide an ideal scenario for allopatric speciation.

The Wileys report that specimens collected by them on Eleuthera were netted in second-growth Bahaman scrub, an open woodland dominated by Acacia, Metopium, Swietenia, and other tropical Caribbean halophobes. Specimens were netted in cleared areas and at the woods edge. This corroborates the already noted tendency for Compsopterus to occur in disturbed habitats (Porter 1986).

3. Compsopterus fasciipennis (Brullé)
(Fig. 3, 4, 5)

Female. Color: Head, body, and wings refugently bluish black; antenna yellow with dusky staining on its apical 0.3; wings each with a conspicuous transverse orange-yellow band.

Length of fore wing: 8.0-11.7 mm. Flagellum: robustly setaceous and quite strongly flattened below subapically; 1st segment 2.6-2.9 as long as deep apically. Temple: at mid-height 0.65-0.75 as long as eye in lateral view. Occipital carina: elevated laterally into a rather high flange. Clypeus: convex, moderately strongly and a little asymmetrically raised in profile. Malar space: 1.1-1.2 as long as basal width of mandible. Mesopleuron: more shining than in C. orientalis; disc on upper 0.5 moderately strongly puncto-reticulate with most punctures distinct and separated in part by some very narrow shining inerstices; on lower 0.5 of disc with stronger puncto-reticulation varying to coarse but not gross reticulate wrinkling but without coarse longitudinal wrinkles. Lower metapleuron: strongly to coarsely puncto-reticulate (not as strongly so as in C. orientalis). Propodeum: basal trans-carina more or less traceable throughout; areola approximately as wide as long; median longitudinal carinae often faintly defined; apical trans-carina varying from complete and strong to weak and sometimes medially absent, sublaterally always forming a low but projecting broad and bluntly cuneate crista; surface distad of basal trans-carina strongly reticulo-rugose but less coarsely so than in C. orientalis. Ovipositor: sheathed portion 0.65-0.67 as long as fore wing.
MALE. Differs from female as follows: Clypeus: a little more strongly raised in profile than in female. Propodeum: basal trans-carina averaging higher than in female, arched forward to a short median abscissa or almost a point; cristae broad and weakly subcuneate. Second gastric tergite: smooth and polished with multitudinous tiny punctures that emit long and much overlapping setae.

MATERIAL EXAMINED. Many ♀ and ♂ from subtropical Florida, including the Miami area and Everglades National Park, as well as the Keys from Key Largo to Key West. (Cambridge, Gainesville: FSCA and AEI).

RELATIONSHIPS. As previously explained, Compsocryptus fasciipennis closely resembles the Cuban C. orientalis. The best proof of their specific differentiation derives from the fact that both occur sympatrically in the Santiago region of Cuba but show no evidence of hybridisation or intergradation in the zone of contact.

FIELD NOTES. This large and brilliantly colored ichneumonid is 1 of the most conspicuous Hymenoptera in south Florida and the Keys. Porter (1986) indicated that its normal flight period extends from October to May, that the species frequents disturbed habitats with much herbaceous vegetation (especially Bidens), and that it may be collected both by hand net and by insect flight interception traps.

COLLECTIONS

Material for this study was examined in the following institutional collections, which are listed below according to the cities where they are located and the abbreviated designations by which they are known.

CAMBRIDGE. MCZ. Museum of Comparative Zoology, Harvard University, Cambridge, MA 02138.

GAINESVILLE. AEI. American Entomological Institute (Townes Collection) 3005 SW 56th Avenue, Gainesville, FL 32608.

——. FSCA. Florida State Collection of Arthropods, Bureau of Entomology, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville, FL 32602.

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Mr. Thomas J. O’Neill (Fordham College 1987) of New Seabury, Massachusetts, prepared the drawing of Compsocryptus stangei. Mr. Jeffrey Lotz of the Florida Department of Agriculture and Consumer Services (Division of Plant Industry) took the photographs of Compsocryptus fasciipennis, C. orientalis and C. stangei.

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COLEOPTERA OF BERMUDA

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ABSTRACT

A new survey of Bermuda's insects was initiated in 1987. Two hundred and twenty-eight species of Coleoptera (beetles), in 44 families, are found in the Bermuda Department of Agriculture and Fisheries collection, or are reported in the literature. One hundred and twenty-six are new Bermuda records. Sixty-five of the species listed may not be established on the islands; twenty-four are interceptions, and the rest are probably misidentifications or species which were once present but are no longer established. Approximately 41% of the beetles are cosmopolitan or tropicopolitan species, a further 34% occur in eastern or southeastern North America, and 20% originate from the Caribbean region. There are no known endemics.

RESUMEN

Se inició en 1987 una nueva encuesta de los insectos de las Bermudas. Doscientas veinte y ocho especies de Coleópteros (escarabajos) en 44 familias se encuentran en la colección del Departamento de Agricultura y Pesca, o son reportados en la literatura. Ciento veinte y seis son nuevos registros para las Bermudas. Sesenta y cinco de las especies listadas pudieran no estar establecidas en las islas; veinte cuatro son interceptaciones, y el resto son probablemente identificaciones erróneas o especies que estuvieron presente pero que ya no están establecidas. Aproximadamente el 41% de los escarabajos son especies cosmopolitas o tropicopolitanas, el 34% ocurre en las zonas este o sudeste de Norteamérica, y el 20% se origina de la región del Caribe. No hay especies endémicas.

Bermuda is a small archipelago in the North Atlantic. Seven main islands and numerous smaller ones lie in a fishhook-shaped cluster centered at 32°18' N, 64°46' W. The closest land is Cape Hatteras, North Carolina, USA., 1040 km to the west-northwest. Total land area is approximately 54 km² with a maximum elevation of only 74 m. The