

Additions to the scorpion fauna of Panama and Costa Rica

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Abstract: Two new additions to the scorpion fauna of Panama and Costa Rica are described: the male of *Chactas bonito* Francke and Stockwell, 1987, Chactidae, a species previously described from Costa Rica but based only on female specimens, and *Tityus mongei* n.sp., Buthidae, from Colon Province in Panama. *Tityus mongei* is closely related to *Tityus sastrei* Lourenço and Florez, described from the Pacific coastal region of Colombia. In comparison with *T. sastrei*, *T. mongei* is characterized by (1) lighter more yellow coloration (2) pedipalp keels more strongly crenulated (3) the subaculeous tooth is strong and very stocky and (4) basal middle lamellae of pectines strongly dilated.

Key words: Scorpions, new records, new species, Panama, Costa Rica.

The faunas of Panama and Costa Rica have been synthesised respectively by Lourenço and Mendez (1984) and Francke and Stockwell (1987). Examination of new material from these countries reveals new taxa not yet known to science (Lourenço, 1986, 1993). In this paper, the male of *Chactas bonito* Francke and Stockwell, 1987, Chactidae, previously known only from females, is described for the first time, and *Tityus mongei* n.sp. is described for Colon Province in Panama.

Description of the male of *Chactas bonito* (Figs. 1 to 5)

Chactas bonito Francke and Stockwell, 1987. *Spec. Publ. Mus. Texas Tech Univ.*, 25:

Coloration. Basically yellow-reddish with some diffuse variegated fuscous colour. Carapace yellow. Tergites yellow fuscous and distinct variegated. Metasomal segments reddish yellow; vesicule yellow. Chelicerae yellow; base with diffuse variegated fuscous colour; fingers uniformly dense fuscous

colour. Pedipalps reddish yellow; fingers densely red. Venter and sternites yellowish.

Morphology. Carapace lustrous and acarinate, furrows shallow; laterally with moderately dense, minute granulation. Sternum pentagonal, wider than long. Tergites acarinate, smooth and shiny with sparse small granulations posterolaterally except for VII. Pectinal tooth count 7-7. Sternites smooth and shiny, VII acarinate. Metasomal segments IV and V longer than wide, smooth and shiny; segment V with dense, small granulation ventrally. All keels in segments I-IV weak or absent. Segment V with ventral lateral and ventral median keels weak, granulose. Pedipalps: femur with dorsal internal, dorsal external and ventral internal keels strong, tuberculate; ventral external keel vestigial; dorsal and ventral faces without granulation; internal face median granulose. Tibia smooth lustrous; dorsal internal, ventral internal, ventral external and external keels weak; other keels vestigial. Chelae lustrous; dorsal marginal, external secondary, and ventrointernal keels vestigial; ventral medi-

an keel strong; other keels vestigial to absent, smooth. Chelicerae typical of the family Chactidae. Trichobothriotaxy type C; neobothriotaxic. Measurements in table I.

Specimen examined. Panama: Provincia Colon: Rio Llano Sucio, area Sta Rita, Vertiente Atlantica. V/1971 (D.Quintero). (MNHN-RS-7928)

Tityus mongei new species
(Figs. 6 to 9)

Holotype female: Riollano Sucio, area Sta Rita, Vertiente Atlantica, Provincia Colon, Panama, V/1971 (D.Quintero).

Deposited in the Muséum National d'Histoire Naturelle (RS-7928), Paris

Etymology: Patronym in honor of Dr. Julian Monge-Najera of the Universidad de Costa Rica.

Description based on female holotype. Measurements in table I.

Coloration. Basically yellowish red. Prosoma: carapace reddish; eyes surrounded with black pigment. Mesosoma: yellowish red. Metasoma: segments I to III yellowish red; IV and V reddish. Vesicle: same colour as segment V. Venter yellow. Chelicerae yellowish; fingers dark. Pedipalps: reddish; fingers much darker. Legs yellowish without diffuse fuscous spots.

Morphology. Carapace feebly granular; anterior margin with a median concavity. Anterior median superciliary and posterior median keels moderate to strong. All furrows moderate to very deep. Median ocular tubercle distinctly anterior of middle. Three pairs of lateral eyes. Sternum subtriangular. Mesosoma: tergites almost smooth. Median keel moderate in all tergites. Tergite VII pentacarinat. Venter: genital operculum divided longitudinally. Pectines: pectinal tooth count 18-19; basal middle lamellae of the pectines strongly dilated. Sternites smooth with elongate stigmata; VII without keels. Metasoma: segments I to IV with dorsolateral and lateral supramedian keels crenulate. Lateral inframedian keels on segment I complete, strongly crenulate; on II represented by only two to three distal granules; absent from III and IV. Ventrolateral keels strong, crenulate. Ventral submedian keels strongly crenulate. Intercarinal spaces feebly granular. Segment V with dorsolateral keels moderate; lateromedian keels vestigial;

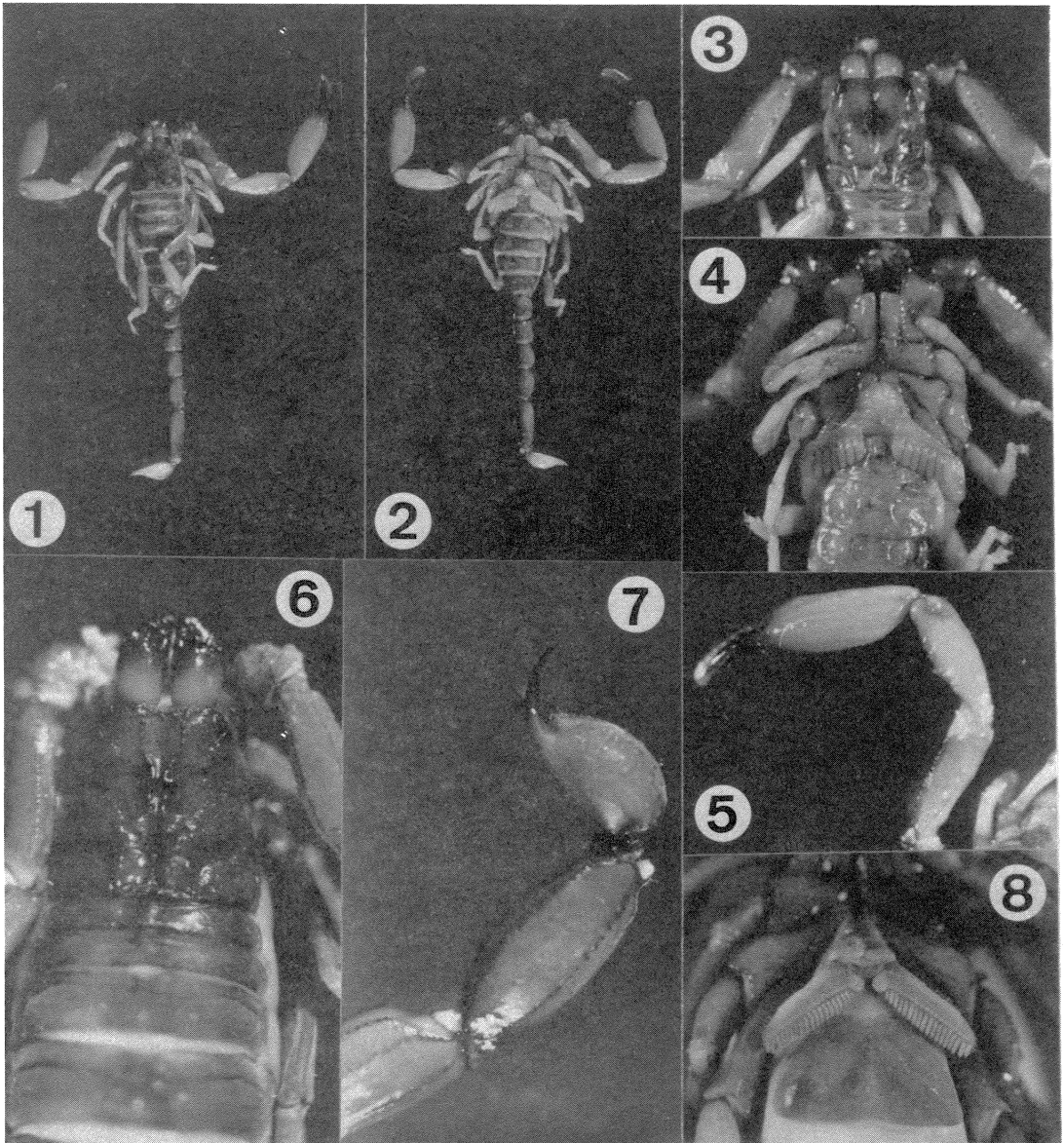
ventrolateral and ventromedian keels strong, crenulate. Lateral intercarinal spaces feebly granular, almost smooth. Telson, moderately granular with a short and moderately curved aculeous. Dorsal surface smooth; ventral surface granular; subaculeous tooth strong and very stocky, not spinoid. Cheliceral dentition characteristic of the family Buthidae; ventral aspect of both fingers and manus with dense, long setae. Pedipalps: femur pentacarinat; tibia with 7 keels; chelae with 9 keels, moderate or vestigial; all faces feebly granular. Movable fingers with 16 oblique rows of granules. Trichobothriotaxy; orthobothriotaxy A. Legs: tarsus ventrally with numerous short fine setae.

Taxonomic position: Of all species known *Tityus mongei* is closely related to *Tityus sastrei* Lourenço and Florez, described from the Pacific coastal region of Colombia. The most significant differences between these two species are: (1) lighter more yellow coloration in *T.mongei* whereas in *T.sastrei* the body presents some variegated fuscous coloration, (2) keels in the pedipalps of *T.mongei* are more strongly crenulate than in *T.sastrei*, (3) the subaculeous tooth in *T.mongei* is strong and very stocky whereas it is spinoid in *T.sastrei*, (4) the

TABLE I

Measurements (in mm) of the described specimens

	<i>Chactas bonito</i> (male)	<i>Tityus mongei</i> (female)
Carapace:		
length	4.9	7.9
anterior width	3.5	6.0
posterior width	5.2	8.9
Metasoma, segment I,		
length	2.3	5.6
width	2.0	4.4
Metasoma, segment V,		
length	4.9	9.5
width	1.7	4.7
depth	1.9	4.3
Vesicle:		
width	1.7	3.7
depth	1.5	3.6
Femur, length	5.5	8.4
Tibia, length	6.3	9.5
Chelae:		
length	10.9	15.9
width	2.9	3.4
depth	2.4	3.2
Movable finger:		
length	4.8	10.4



Figs. 1 to 5. Male of *Chactas bonito*. 1. Dorsal view. 2. Ventral view. 3. Carapace. 4. Pectines, genital operculum and sternum. 5. Pedipalp, dorsal view.
 Figs. 6 to 8. Female holotype. 6. Carapace and chelicerae. 7. Segment V of metasoma and telson. 8. Pectines.

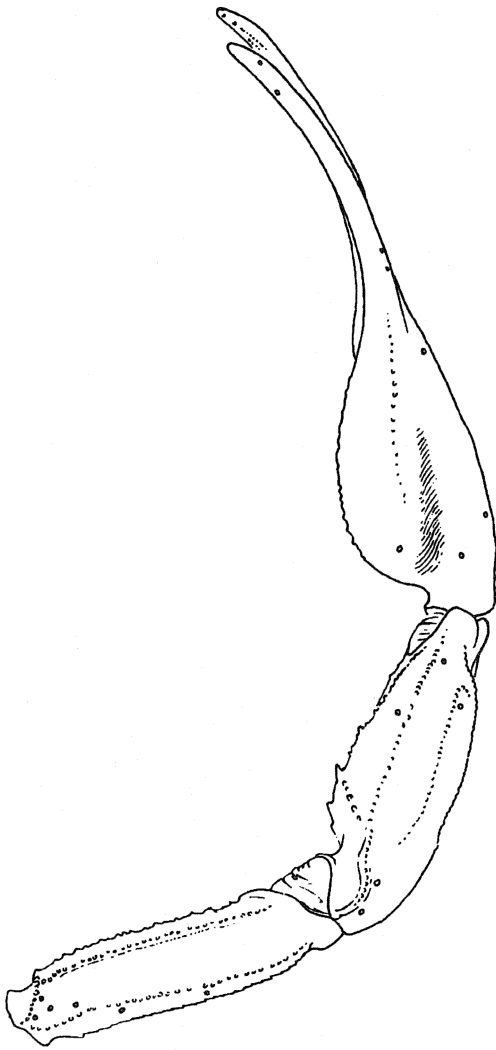


Fig. 9. Female holotype pedipalp: dorsal view with trichobothries.

basal middle lamellae of pectines are strongly dilated in *T.mongei* whereas in *T.sastrei* they are not.

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RESUMEN

Se describen dos nuevos casos de escorpiones de Panamá y Costa Rica: el macho de *Chactas bonito* Francke and Stockwell, 1987, Chactidae, especie descrita previamente solo con base en hembras de Costa Rica y *Tityus mongei* n.sp., Buthidae, de la provincia de Colón en Panamá. *Tityus mongei* está cercanamente emparentado con *Tityus sastrei* Lourenço y Florez, que fue descrito de la región de la costa Pacífica de Colombia. En comparación con *T. sastrei*, *T. mongei* se caracteriza por (1) coloración amarilla más clara, (2) quillas de los pedipalpos más crenuladas, (3) dientes subaculares robustos y (4) lamelas basales medias de los pectenes fuertemente expandido.

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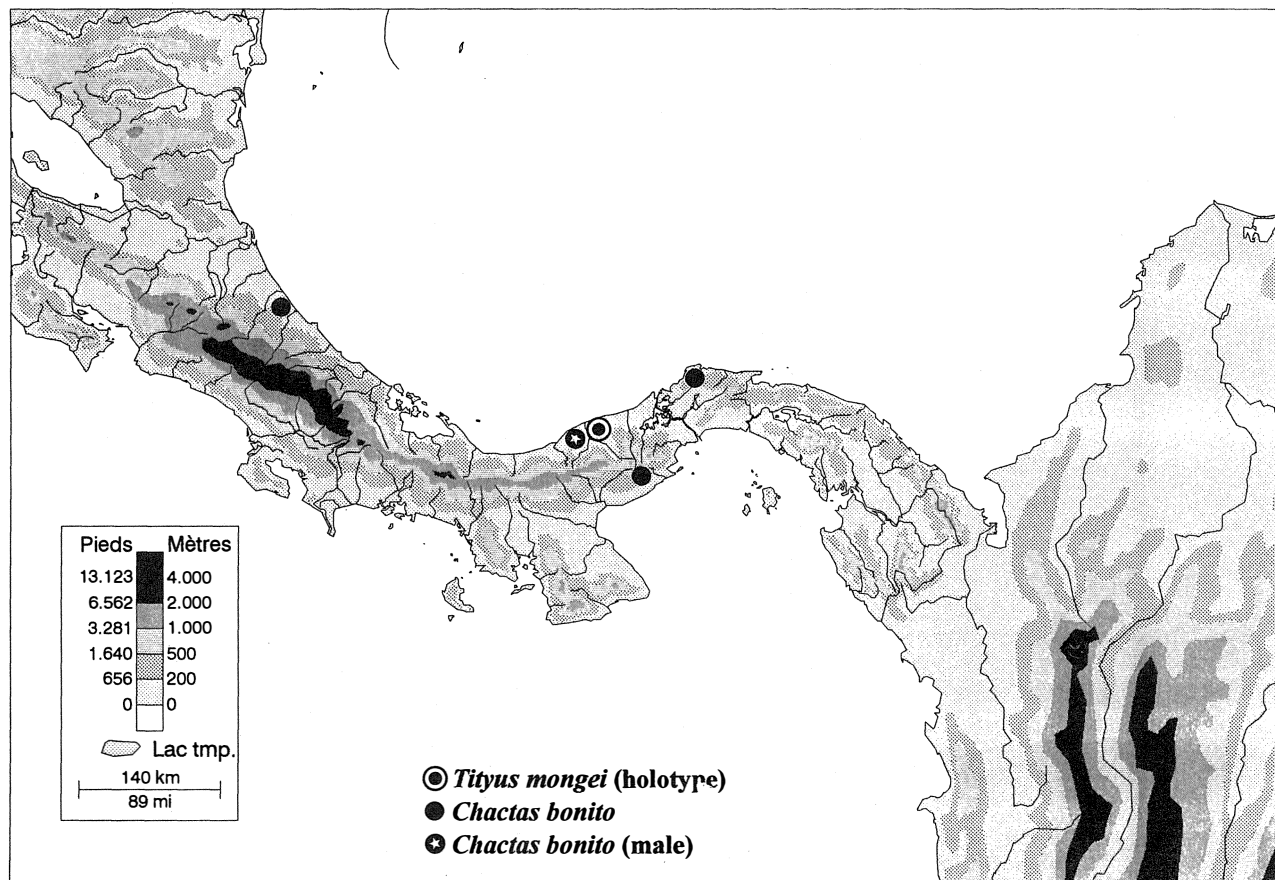


Fig. 10. Type localities of *Tityus mongei* n.sp. and *Chactas bonito*.