UNIVERSIDADE FEDERAL DO ESPÍRITO SANTO
CENTRO DE CIÊNCIAS HUMANAS E NATURAIS
PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS BIOLÓGICAS

Taxonomia de *Dissomphalus* (Hymenoptera: Bethylidae) do Panamá

Chirlei Dias de Brito

Vitória, ES
Janeiro, 2017

UNIVERSIDADE FEDERAL DO ESPÍRITO SANTO

CENTRO DE CIÊNCIAS HUMANAS E NATURAIS

PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS BIOLÓGICAS

Taxonomia de *Dissomphalus* (Hymenoptera: Bethylidae) do Panamá

Chirlei Dias de Brito

Orientador: Celso Oliveira Azevedo

Dissertação submetida ao Programa de Pós-graduação em Ciências Biológicas (Biologia Animal) da Universidade Federal do Espírito Santo como requisite parcial para a obtenção do grau de Mestre em Biologia Animal

Vitória, ES

Janeiro, 2017

AGRADECIMENTOS

Em primeiro lugar agradeço as pessoas mais importantes e que mais admiro nessa vida, meus pais, Zélia e Nelson, pelo amor, educação e pelos valores que me ensinaram mostrando sempre que gentileza, humildade e respeito são o nosso maior tesouro.

Agradeço aos meus irmãos, Ceila e Charles por estarem sempre presentes, pelos conselhos, conversas e risadas fruto do amor que nos une.

Agradeço ao meu orientador Celso Azevedo pela oportunidade, confiança e pela dedicação não só na realização desse trabalho, mas também por outros aspectos que me fizeram crescer profissionalmente e que me fez aprender muito.

Agradeço ao meu namorado Jefferson por ter sido paciente, pela compreensão, conselhos e principalmente por ter me mostrado que a vida é só uma e que por isso devemos tirar o máximo de bom dela.

Agradeço aos meus amigos, aqueles que deixei na minha cidade de Poçoes Bahia e aqueles que fiz aqui em Vitória ES, por tudo que fizeram e fazem por mim, sei sem sombra de dúvidas que sou uma pessoa sortuda e feliz por tê-los ao meu lado.

Agradeço à Daniele Mugrabi (Dani) por ter tirado um pouquinho do seu tempo para me ajudar durante estes dois anos, pela disponibilidade, gentileza, paciência, e posso dizer que aprendi muito, tanto profissionalmente como pessoalmente e sei que é uma pessoa que sempre poderei contar.

Agradeço as meninas que dividem apartamento comigo, a Joseane (Josy) e Juliana (July), por me ouvirem nas horas mais dificeis, que não foram poucas. Agradeço em especial a July pelos conselhos quando compartilhei minhas frustações e dúvidas e por ter sido tão companheira e amiga.

Agradeço aos colegas do laboratório Lucyane, Juan, Magno, Wesley, Diego, Cecília, e Isabel, pois este trabalho só pode ser realizado graças a ajuda de todos eles, seja com foto, com o Delta, descrições, desenhos, conversas, conselhos e tantas outras coisas.

Muito obrigada!

Sumário

Resumo. A fauna de *Dissomphalus* do Panamá é estudada e sessenta e quatro espécies são reconhecidas, 31 são descritas e ilustradas como nova para a Ciência: *D. sp. 1*, *D. sp. 2*, *D. sp. 3*, *D. sp. 4*, *D. sp. 5*, *D. sp 6*, *D. sp. 7*, *D. sp. 8*, *D. sp. 9*, *D. sp. 10*, *D. sp. 11*, *D. sp. 12*, *D. sp. 13*, *D. sp. 14*, *D. sp. 15*, *D. sp. 16*, *D. sp. 17*, *D. sp. 18*, *D. sp. 19*, *D. sp. 20*, *D. sp. 21*, *D. sp. 22*, *D. sp. 23*, *D. sp. 24*, *D. sp. 25*, *D. sp. 26*, *D. sp. 27*, *D. sp. 28*, *D. sp. D. 29*, *D. sp. 30* e *D. sp. 31*. Nove espécies são registradas pela primeira vez para o Panamá: *D. angulatus*, *D. galeatus*, *D. hirtus*, *D. infissus*, *D. personatus*, *D. pilus*, *D. politus*, *D. pronus* and *D. vallensis*. Dezesseis tiveram seus dados de distribuição geográfica ampliados: *D. bilobatus*, *D. brasiliensis*, *D. cervoides*, *D. coronatus*, *D. curvifoveatus*, *D. geniculatus*, *D. gilvipes*, D. *guttus*, *D. intradentatus*, *D. plaumanni*, *D. piscicercus*, *D. punctatus*, *D. rettenmeyeri*, *D. rufipalpis*, *D. strepsus* e *D. unitus*. E oito espécies previamente registradas para o Panamá, não foram encontradas no material de estudo: *D. altivolans*, *D. apertus*, *D. culteratus*, *D. declinatus*, *D. latus*, *D. ramosus*, *D. strabus* and *D. subdeformis.* Foi incluída uma chave para as espécies de *Dissomphalus* da América Central.

Abstract. The Panama fauna of *Dissomphalus* is studied and sixty-four species are recognized, 31 are descibed and illustrated as new to Science: *D. sp. 1*, *D. sp. 3*, *D. sp. 2*, *D. sp. 4*, *D. sp. 5*, *D. sp. 6*, *D. sp. 7*, *D. sp. 8*, *D. sp. 9*, *D. sp. 10*, *D. sp. 11*, *D. sp. 12*, *D. sp. 13*, *D. sp. 14*, *D. sp. 15*, *D. sp. 16*, *D. sp. 17*, *D. sp. 18*, *D. sp. 19*, *D. sp. 20*, *D. sp. 21*, *D. sp. 22*, *D. sp. 23*, *D. sp. 24*, *D. sp. 25*, *D. sp. 26*, *D. sp. 27*, *D. sp. 28*, *D. sp. 29*, *D. sp. 30* and *D. sp. 31*. Nine species are recorded for the first time from Panama: *D. angulatus*, *D. galeatus*, *D. hirtus*, *D. infissus*, *D. personatus*, *D. pilus*, *D. politus*, *D. pronus* and *D. vallensis*. Sixteen had their geographic distribution data broadened: *D. bilobatus*, *D. brasiliensis*, *D. cervoides*, *D. coronatus*, *D. curvifoveatus*, *D. geniculatus*, *D. gilvipes*, *D. guttus*, *D. intradentatus*, *D. plaumanni*, *D. piscicercus*, *D. punctatus*, *D. rettenmeyeri*, *D. rufipalpis*, *D. strepsus* and *D. unitus*. And eight species previosly recorded from Panama, were not found in the study material: *D. altivolans*, *D. apertus*, *D. culteratus*, *D. declinatus*, *D. latus*, *D. ramosus*, *D. strabus* and *D. subdeformis*. A key for Central American species of *Dissomphalus* is included.

APRESENTAÇÃO

Sou baiana, nascida em 03 de novembro de 1987 em uma fazenda pertencente ao município de Nova Canaã, onde morei até os sete anos de idade. Após isso, minha família mudou-se para a cidade de Poções onde vivi até os 25 anos, na qual qual ainda tenho toda a minha família, amigos, professores e pela qual guardo boas lembranças.

Fiz licenciatura em Ciências Biológicas na Universidade Estadual do Sudoeste da Bahia (UESB) em Vitória da Conquista. Foi lá que surgiu o amor pelos insetinhos, me encantei pelo estudo deles na disciplina de Invertebrados III, que com a influência da professora Raquel Pérez Maluf me fez querer aprofundar no estudo deles.

A partir desta disciplina comecei a fazer iniciação científica e o meu trabalho era identificar as famílias de himenópteros coletados em plantações de café e mata. Foi a partir daí que surgiu o interesse em Bethylidae, já que assim como outras famílias de himenópteros eram encontrados nas armadilhas. Comecei então a estudar essas vespas e tentar identificá-las em gênero; no entanto havia algumas dificuldades, pois não havia ninguém no laboratório que pudesse me ajudar, já que minha professora trabalhava e ainda trabalha com abelhas.

Foi então que descobri, através de artigos, o laboratório do professor Celso Azevedo, que trabalhava com taxonomia de Bethylidae. Foi a partir disso que surgiu a ideia de tentar o mestrado com ele.

Acabei a graduação e me inscrevi no processo seletivo na UFES de 2013/1, mas não passei na prova de conhecimento específico, apenas na prova de inglês. Depois de recebido o resultado ainda pensei em tentar em outras universidades ainda com o tema inseto, até que recebi um email do professor Celso me convidando para trabalhar na coleção entomológica da universidade. Não pensei duas vezes e em menos de 15 dias eu estava em Vitória sem conhecer nada e ninguém.

A minha experiência na coleção foi excelente, pois eu trabalhava com o que gostava e muita coisa era nova para mim, além disso, pude aprender muito com o Felipe Fraga (popularmente conhecido como Bife) que além de ser bom conhecedor de taxonomia é muito paciente e sabe passar seu conhecimento muito bem (confesso que muito do que sei das famílias e estruturas corporais devo a ele, muito obrigado, Felipe.).

Assim, tentei o mestrado uma segunda vez e não passei novamente, passei na prova objetiva e dessa vez não passei no inglês. Depois desse resultado o professor Celso

me convidou para trabalhar no laboratório com ele, foi outra experiência muito importante na minha vida, onde aprendi muita coisa.

Fui para a terceira tentativa de mestrado e finalmente passei, fiquei em dúvida entre dois gêneros, *Chlorepyris* e *Dissomphalus*, depois de muito pensar acabei ficando com taxonomia de *Dissomphalus*.

O mestrado foi uma experiência única na minha vida, fiz um trabalho em que tudo era novo para mim. Executá-lo foi um desafio principalmente porque não tinha noção do tamanho dele, da responsabilidade em publicar espécies e de passar para o leitor um trabalho de maneira mais clara e simples possível. A taxonomia não é só sentar e descrever espécies como muitos dizem, exige muito mais que isso, exige pensar, analisar, discutir, tentar entender os padrões encontrados em uma série de exemplares para agupá-los e como sabemos os seres são complexos e tentar organizá-los é uma tarefa um pouco árdua, mas prazerosa.

Passei no doutorado e resolvi partir para a área da morfologia em Bethylidae, assim como o mestrado estou animada e ansiosa para começar um novo capítulo da minha vida, acho que dessa vez será mais tranquilo, pois tudo de bom e ruim que vivi no mestrado serviram como experiência para um próximo passo.

Ao final dessa dissertação, sinto-me feliz por ter finalizado esse projeto, talvez falte algo, mas foi o que pude fazer e fiz da melhor maneira possível. Espero que eu tenha dado uma boa contribuição ao estudo dos queridos *Dissomphlaus*.

O texto a seguir foi escrito conforme regras da revista Zootaxa, onde o artigo será publicado brevemente. As espécies não foram nomeadas porque o artigo ainda não foi publicado.

1. Introduction

Dissomphalus Ashmead is currently the richest genus of Bethylidae with 379 valid species from all over the world, most of them from the Neotropical region, where the genus is largely distributed and abundant (Azevedo 2003).

Many contributions have been made for the Neotropical region (Azevedo 1999a, 1999b, 2001, 2003; Alencar & Azevedo 2006, 2008; Redighieri & Azevedo, 2006; Colombo & Azevedo 2016), but none of them focused on the Panama fauna. This country is the twenty-eighth in the world in number of species (Cuarto Informe Nacional de Panamá ante el Convenio sobre la Diversidad Biológica 2010), which occupies an important geographical position and allowing fauna and flora invasions that transformed terrestrial ecosystems in the tropical America (Leigh *et al*. 2014) with the emergence of the isthmus that made a union of South America with North and Central America.

Given the recognition of the importance of Panama in biological and biogeographic terms, and of the lack of systematized studies on Panama's *Dissomphalus* fauna, this work aimed to make a taxonomic approach of its fauna and to present a identification key from Central American.

2. Material and methods

2.1 Sampled area

Panama is in the fourth largest country in Central America, with about 75 thousand km^2, representing 14.7% of the entire Central American region (Atlas Ambiental de la República de Panamá 2010)

The country is exclusively tropical with 12 life zones (Ramírez 2003), in which the tropical rainforest, the very humid tropical forest and the very humid slope forest occupy most of the territory with 32%, 13% and 18% respectively. The tropical dry forest and the sloping dry forest are among those occupying the smallest part of the territory with only 7% and 3% respectively. The climate is described as tropical marine and there is an extensive rainy season from May to January, followed by a short dry season (Biodiversity and Tropical Forestry Assessment of the USAID/ Panama Program 2004). The main types of vegetation are tropical evergreen forest, mountain evergreen forest, floodplain, savannas and pioneer secondary vegetation (Primer Informe de la Riqueza y Estado de la Biodiversidad de Panamá 1998).

It consists of nine provinces: Bocas del Toro, Chiriquí, Coclé, Cólon, Darien, Herrera, Los Santos, Panama and Veraguas, and three indigenous counties: Kuna Yala, Embera-Wounnan and Ngobé-Buglé (Primer Informe de la Riqueza y Estado de la Biodiversidad de Panamá 1998).

2.2. Material examined. The 1,744 studied specimens were collected between 1991 and 2002, but most of the material came from two large collections from 1999 to 2002. The first one was done between January 1999 and December 2000 in seven provinces and in the county of Kuna Yala where they were divided into 19 sampling points (Murgas 2006). The second one was held in Darien National Park, with nine field visits, being the first in 1991 (there is not any material from this date), the second in 1993 and the other between March 2000 and October 2002 (Murgas & González 2004). Furthermore, specimens collected by other researchers over the years have been added to the material. Most of the material was collected with Malaise trap, but there is also material collected with Möricke trap and entomological nets.

This material belongs to the followong institutions (curator in the time when material was accessed, in parantheses): The Natural History Musuem, U.K. (BMNH, D. Notton); Canadian National Collection of Insects, Canada (CNCI, J. Huber); Utah State University, U.S.A (EMUS, James Pitt); Fundacíon Instituto Miguel Lillo, Argentina (FIML, V. Colomo); Florida State Collection of Arthropods, U.S.A. (FSCA, J. Wiley); Instituto Nacional de Pesquisas da Amazônia, Brazil (INPA, J.A. Rafael); Museo de Natural History Museum of Los Angeles County, U.S.A (LACM, B. Brown); Invertebrados, Universidad de Panama "G.B. Fairchild", Panama (MIUP, D. Quintero); Museu Paraense Emílio Goeldi, Brazil (MPEG, A. Harada and O.T. Silva); Royal Alberta Museum, Canada (PMAE, A. Finammore); Bohart Museum of Entomology, U.S.A (UCDC, Steve Heydon); Universidade Federal do Espírito Santo (UFES, C.O. Azevedo); National Museum of Natural History, U.S.A (USNM, D. Furth); Museum für Naturkunde, Germany (ZMHB, F. Koch).

All data labels were literally transcripted, preserving the original language. However, additional data are in brackets and corrected data are in keys.

2.3. Terminology. The terms used in the descriptions follow Evans (1964), Azevedo (1999a) and Azevedo (2001), the terms used for texture and structures of the integument Harris (1979).

2.4. Illustrations. The head and metasoma were photographed under a Leica Z16 APO stereomicroscope coupled to a Leica DFC 2 video camera by Leica Microsystems (Switzerland). Two different software programs were used to combine the images: Leica Application Suite V3.6.0 by Leica Microsystems (Switzerland), using the parameters max. process, precision optimize, and 15–40 patch size to combine images, and Helicon Focus (HeliconSoft), using the parameters A, B or C method; 100% full resolution; 1–4 radius; 1 smoothing; and 300 DPI. The characters of the genital structures were drawn in camera lucida adapted to a microscope and then scanned into Photoshop. For each specimen, illustrations were made as follows: head in dorsal view; tergal processes when present in dorsal or lateral view; dorsal, ventral and lateral view of the male genitalia.

2.5. Key. The key was made based on keys proposed by Azevedo (1999a, 2003), Alencar & Azevedo (2008, 2006) and Redighieri & Azevedo (2006).

2.6. Name of new species. The specific epithet of all new species was formed by a meaningless random combination of letters followed by the suffix “us”, wich address the male gender.

2.7. Delta coded character list

1. **Sex:** male; female.

2. **Body lenght:** in millimeters in lateral view.

3. **Color:** body coloration varying from black to light castaneous.

4. **Number of apical teeth of mandible:** two; three; four; five.

5. **Shape of median lobe of clypeus:** ill-defined, when it is not possible to distinguish median lobe from lateral ones; trapezoidal; subtrapezoidal.

6. **Number of teeth of median lobe of clypeus:** one rounded very large tooth; one angulate very large tooth; one angulate very short tooth; one rounded very short tooth.

7. **Median clypeal tooth:** with high keel.

8. **Size of median clypeal carina:** low in profile; high in profile; very high in profile.

9. **Completeness of median carina of clypeus:** complete apically or nearly so; incomplete apically.

10. **Shape of median clypeal, in profile:** angled; straight or nearly so; convex.

11. **Gena:** with spine.

12. **Texture of frons:** weakly coriaceous; strongly coriaceous.

13. **Size of punctures:** large; small.

14. **Shape of head vertex crest:** strongly concave; weakly concave; straight; weakly convex; strongly convex.

15. **Texture of pronotal disc:** weakly coriaceous; coriaceous; strongly coriaceous.

16. **Sculpture of anterior margin of pronotal disc:** carinate; ecarinate; coarse.

17. **Metasoma segment II with:** tergal process absent; median; lateral.

18. **Depression of metasomal tergo II:** without depression; deep; shallow; very shallow; deeply excavated.

19. **Shape of depression of metasomal tergo II:** circular; subcircular; subtriangular; linear.

20. **Size of depression of metasomal tergo II:** small; large; large depression covered by a membrane.

21. **Tubercle of metasomal tergo II:** without tubercle; very small; small; large; very large.

22. **Size of tubercle of metasomal tergo II:** high; low; very low.

23. **Orientation of tubercle of metasomal tergo II:** mesad; posterad; dorsad; laterad.

24. **Position of tubercle of metasomal tergo II:** center of depression; inner area of depression; anterior area on depression; posterior area on depression.

25. **Pit of tubercle of metasomal tergo II:** absent; very small; small; large.

26. **Size of seta of pit of metasomal tergo II:** very short; short; long.

27. **Tuft of setae on pit of metasomal tergo II:** dense tuft of setae; dense tuft of thick setae; sparse tuft of setae; tuft of setae with one distinctly long setae.

28. **Posterior hypopygeal margin:** straight with median concavity; median straight with angled corners; staright or nearly so; strongly concave; weakly concave.

29. **Genitalia. Paramere with dorsal margin:** wide basally; entirely wide.

30. **Apical margin of paramere:** truncate; rounded.

31. **Aedeagal ventral ramus:** higher than dorsal body; as long as high as dorsal body; shorter than dorsal body.

32. **Cross section of ventral ramus:** tubular; laminar.

33. **Surface of ventral ramus:** horizontal; subhorizontal; vertical; subvertical; horizontal twisted apically.

34. **Width of main area of ventral ramus:** wide, progressively narrowing apicad; wide, abruptly narrowing apicad; evenly narrow; entirely wide; entirely wide with small projection apicad.

35. **Inner margin of ventral ramus:** straight; sinuous; strongly sinuous; concave; excaveted; slightly sinuous with a small projection in apical portion; slightly sinuous.

36. **Outer margin of ventral ramus:** straight; sinuous; slightly sinuous; concave; convex; slightly sinuous; slightly crenulate; wavy; crenulate; toothed.

37. **Apex of ventral ramus:** short; long.

38. **Ramification of ventral ramus:** bifid.

39. **Translucence of ventral ramus:** translucent.

40. **Shape of apex of ventral ramus**: simple; with two small projections; with sinuous slender ventral projection.

41. **Direction of apex of ventral ramus:** angled outward; curved outward; slightly curved outward; parallel; slightly curved inward.

42. **Additional inner ramus of ventral ramus:** absent; short; long.

43. **Basal stub:** presente; absent.

44. **Size of basal stub:** very short; short; long.

45. **Widht of basal stub:** very narrow; narrow.

46. **Apical lobes of aedeagal dorsal body:** pair of apical lobe; two pairs of apical lobes; three pairs of apical lobes; four pairs of apical lobes.

47. **Size of apical outer lobe:** short; long; very long.

48. **Section of apical outer lobe:** vertical; subvertical; horizontal; subhorizontal.

49. **Widht of apical outer lobe:** very narrow; narrow; wide.

50. **Apical margin of outer lobe:** rounded; abruptly acute; acute; straight; angled; crenulate.

51. **Direction of apex:** ventrad; posterad; laterad; dorsad.

52. **Inner pair:** stout, membranous and setose.

53. **Extension of apodeme:** extending beyond genital ring; not extending beyond genital ring.

3. Results

The fauna of *Dissomphalus* from Panama has now sixty-four species. Of these, 31 are new to Science: *D.* sp. 1, *D.* sp. 2, *D.* sp. 3, *D.* sp. 4, *D.* sp. 5, *D.* sp. 6, *D.* sp. 7, *D.* sp. 8, *D.* sp. 9, *D.* sp. 10, *D.* sp. 11, *D.* sp. 12, *D.* sp. 13, *D.* sp. 14, *D.* sp. 15, *D.* sp. 16, *D.* sp. 17, *D.* sp. 18, *D.* sp. 19, *D.* sp. 20, *D.* sp. 21, *D.* sp. 22, *D.* sp. 23, *D.* sp. 24, *D.* sp. 25, *D.* sp. 26, *D.* sp. 27, *D.* sp. 28, *D.* sp. 29, *D.* sp. 30 and *D.* sp. 31.

Nine species are recorded from Panama for the first time: *D. angulatus* Azevedo, *D. galeatus* Alencar & Azevedo, *D. hirtus* Alencar & Azevedo, *D. infissus* Evans, *D. persontaus* Redighieri & Azevedo, *D. pilus* Alencar & Azevedo, *D. politus* Ashmead, *D. pronus* Alencar & Azevedo and *D. vallensis* Evans.

Sixteen had their distribution broadened to Panama: *D. bilobatus* Azevedo, D. *brasiliensis* Kieffer, *D. cervoides* Azevedo, *D. coronatus* Alencar & Azevedo, *D. curvifoveatus* Azevedo, *D. geniculatus* Azevedo, *D. gilvipes* Evans, *D. guttus* Azevedo, *D. intradentatus* Azevedo, *D. piscicercus* Azevedo, *D. plaumanni* Evans, *D. punctatus* (Kieffer), *D. rettenmeyeri* Evans, *D. rufipalpis* Kieffer, *D. strepsus* Azevedo and *D. unitus* Azevedo.

And eight species previosly recorded from Panama, were not found in the study material: *D. altivolans* Evans, *D. apertus* Kieffer, *D. culteratus* Alencar & Azevedo, *D.*

declinatus Alencar & Azevedo, *D. latus* Azevedo, *D. ramosus* Alencar & Azevedo, *D. strabus* Azevedo and *D. subdeformis* Azevedo.

3.1. Taxonomic section

Genus *Dissomphalus* Ashmead, 1893

Dissomphalus Ashmead, 1893: 41–42. Type-species: *Dissomphalus xanthopus* Ashmead, by original designation.
Ecitopria Wasmann, 1899: 55–56, 127. Type-species: *Ecitopria crassicornis* Wasmann, by monotypy. Synonymized by Evans, 1955: 290.
Psilobethylus Kieffer in Kieffer & Marshall, 1906: 461–462. Type-species: *Psilobethylus luteus* Kieffer, by monotypy. Synonymized by Terayama, 1995: 888.
Thaumatepyris Kieffer, 1910a: 47. Type-species: *Thaumatepyris punctatus* Kieffer, by monotypy. Synonymized by Evans, 1964: 41.
Glenobethylus Kieffer, 1910a: 50. Type-species: *Glenobethylus montanus* Kieffer, by monotypy. Synonymized by Evans, 1964: 41.
Parisobrachium Kieffer, 1914: 237, 424. Type-species: *Rhabdepyris* ? *albipes* Kieffer, by monotypy. Synonymized by Azevedo, 2008: 784.
Parecitopria Oglobin, 1930: 15. Type-species: *Parecitopria azarai* Oglobin, by monotypy. Synonimized by Evans, 1964: 41.

Diagnosis. Male. Body robust. Clypeus with median lobe sometimes ill-defined. Metasoma relatively wide and short; second tergit sometimes with tergal process (depressions, pits, tufts of setae or tubercles). Hypopygium with three conspicuous stalks. Genitalia wide; paramere simple or bilobate; aedeagus complex, composed by a ventral ramus and dorsal body. Female. Head longer than wide. Eye small, with from one to about 25 facets. Mesonotum short, transverse, posterior margin gently convex at broad junction with propodeum; anterior margin of propodeum not embracing sides of mesonotum to any appreciable extent. Metapectal propodeal disc elongate, more or less parallel-sided.

3.2. Key to *Dissomphalus* from Central America

1. Tergal process absent... 2
- Tergal process present... 5

2. Mandible with two or three distal teeth; median clypeal lobe trapezoidal ... 3
- Mandible with four distal teeth; median clypeal lobe ill-defined ... 4

3. Mandible with three distal teeth; anterior margin of pronotal disc ecarinate; posterior hypopygeal margin sinuous; aedeagal ventral ramus shorter than aedeagal dorsal body, inner margin straight, apex crenulate slightly curved outward (Figs 66, 100) ... *D.* sp. 3

- Mandible with two distal teeth; anterior margin of pronotal disc coarse; posterior hypopygeal margin weakly concave; aedeagal ventral ramus higher than aedeagal dorsal body, inner margin excavated, apex simple and parallel (Figs 79, 163) ... *D.* sp. 16

4. Posterior hypopygeal margin sinuous; paramere with dorsal margin wide basally; aedeagal dorsal body with apical margin acute; aedeagal ventral ramus abruptly narrowing apicad (Figs 65, 97–98) ... *D.* sp. 2

- Posterior hypopygeal margin straight or nearly so; paramere with dorsal margin entirely wide; aedeagal dorsal body with apical margin rounded; aedeagal ventral ramus progressively narrowing apicad (Figs 67, 101–102) ... *D.* sp. 4

5. Tergal process median ... 6

- Tergal process lateral or sublateral ... 21

6. Tegral process with circular depression, densely tuft of setae, always without tubercle; aedeagal ventral ramus wide ... 7

- Tergal process and aedeagal ventral ramus not as above ... 10

7. Tergal process with depression very small and two small tufts of setae ... *D. altivolans* Evans

- Tergal process with very large depression and large tufts of setae ... 8

8. Tergal process with pair of tuft of long setae posterad, fused; paramere as long as basiparamere (Fig. 183) ... *D. unitus* Azevedo

- Tergal process with pair of tuft of short setae, variable direction and distinctly separated; paramere much long than basiparamere ... 9

9. Median clypeal lobe ill-defined, with high keel, median carina very high in profile; gena with spine; dorsal margin of paramere sinuous; aedeagal ventral ramus bifid (Figs 1–2, 95–96) ... *D.* sp. 1

- Median clypeal lobe tridentate, without such keel, median carina not as above; gena without spine; dorsal margin of paramere straight; aedeagal ventral ramus simple... *D. subdeformis* Azevedo

10. Tergal process with median depression, transverse, elliptical with pair of tubercles directed each other ... *D. vallensis* Evans
- Tergal process not as above ... 11

11. Depression of tergal process extremely shallow, much wider than long, occupying nearly two median thirds of tergite width... 12
- Depression of tergal process not as above ... 13

12. Depression of tergal process very shallow, nearly imperceptible; aedeagal dorsal body bidentate, base of ventral margin with small tooth; aedeagal ventral ramus long with projection narrow and flat apical upward ... *D. rasissimus* Azevedo
- Depression of tergal process not so shallow; aedeagal dorsal body simple and apex of ventral margin serrated; aedeagal ventral ramus short, wide with two conspicuous and laminar rami, ventral and apical margins serrated (Figs 164–167) ... *D. bilobatus* Azevedo

13. Tergal process with depression deep, wide and subtriangular, with base directed forward, lateral pit very large much arched inward medially, with many long setae mesad ... *D. curvifoveatus* Azevedo
- Tergal process with depression not as above ... 14

14. Aedeagal ventral ramus with apical portion as wide as median portion, basal portion of outer margin straight ... *D. apertus* Kieffer
- Aedeagal ventral ramus with apex much narrow than median, basal portion of outer margin excavated or projected ... 15

15. Aedeagal ventral ramus with basal portion of outer margin projected, apex parallel or nearly so (Fig. 213) ... *D.* sp. 30
- Aedeagal ventral ramus with basal portion of outer margin excavated, apex much arched outward ... 16

16. Pronotal disc with anterior margin coarse ... 17
- Pronotal disc with anterior margin carinate ... 18

17. Tergal process with shallow depression and small tubercle; posterior hypopygeal margin strongly concave; apex of apical lobes of aedeagal dorsal body acute; apex of aedeagal ventral ramus toothed (Figs 37, 68, 120–121) ... *D.* sp. 5
- Tergal process with deep depression, without tubercle; posterior hypopygeal margin straight; apex of apical lobes of dorsal body rounded; apex of aedeagal ventral ramus smooth (Figs 39, 70, 124–125) ... *D.* sp. 7

18. Tergal process with shallow and subcircular depression, with very small tubercle or without tubercle; apical portion of aedeagal ventral ramus divergente and long ... 19
- Tergal process with deep and large depression; apical portion of aedeagal ventral ramus very short and divergent... 20

19. Tergal process with tubercle; posterior hypopygeal margin weakly concave; outer lobe of aedeagal dorsal body long; basal inner margin of aedeagal ventral ramus straight (Figs 38, 69, 122–123) ... *D.* sp. 6
- Tergal process without tubercle; posterior hypopygeal margin straight; outer lobe of aedeagal dorsal body very long; basal inner margin of aedeagal ventral ramus sinuous (Figs 54, 85, 181–182) … *D.* sp. 22

20. Mandible with three distal teeth; posterior hypopygeal margin straight; apex of paramere with four projections (Fig. 119) … *D. angulatus* Azevedo
- Mandible with two distal teeth; posterior hypopygeal margin convex; apex of paramere with one projection … *D. bifoveatus* Kieffer

21. Tergal process sublateral, with dense tuft of setae posterad, tubercle absent; apical lobes of aedeagal dorsal body with crown-like structure… 22
- Tergal process lateral, with tuft of setae not as above, tubercle usually present; apical lobes of edeagal dorsal body not as above … 29

22. Pronotal disc with anterior margin carinate ... 23
- Pronotal disc ecarinate ... 27

23. Posterior hypopygeal margin straight ... 24

- Posterior hypopygeal margin convex … 26

24. Cuspis long and arched; apical portion of inner margin of aedeagal ventral ramus narrow and acute … 25

- Cuspis regular sized and straight; apical portion of inner margin of aedeagal ventral ramus wide and quadrate … *D. galeatus* Alencar & Azevedo

25. Apical lobes of aedeagal dorsal body short; aedeagal ventral ramus with apex curved mesad, inner margin of apical portion excavated … *D. declinatus* Alencar & Azevedo

- Apical lobes of aedeagal dorsal body very long; aedeagal ventral ramus with apex straight, inner margin excavated in medial and apical portions … *D. sinatus* Alencar & Azevedo

26. Apical lobes of aedeagal dorsal body long; base of paramere developed; cuspis with apex acute; aedeagal ventral ramus short than aedeagal dorsal body … *D. ramosus* Alencar & Azevedo

- Apical lobes of aedeagal dorsal body short; base of paramere not as above; cuspis with rounded apex; aedeagal ventral ramus much shorter than dorsal aedeagal dorsal body … *D. corontaus* Alencar & Azevedo

27. Paramere longer than basiparamere; apical lobes of aedeagal dorsal body very long; inner margin of aedeagal ventral ramus serrated … *D. culteratus* Alencar & Azevedo

- Paramere as long as basiparamere; apical lobes of aedeagal dorsal body regular sized; inner margin of aedeagal ventral ramus smooth … 28

28. Posterior hypopygeal margin straight; cuspis arched with apical part dilated; apical portion of inner margin of aedeagal ventral ramus slightly excavated with apex convergent … *D. hirtus* Alencar & Azevedo

- Posterior hypopygeal margin convex; cuspis arched with apical part not dilated; apical portion of inner margin of aedeagal ventral ramus strongly excavated, with apex divergent … *D. pronus* Alencar & Azevedo

29. Tergal processes with pair conspicuous tubercles with high rim or nearly so and tuft of dense setae … 30

- Tergal processes with pair of small tubercles or even absent, never as main modification of the processes … 37

30. Mandible with three distal teeth; median clypeal lobe ill-defined, with one angulate very large tooth; basiparamere narrow than paramere (Figs 12, 135) … *D.* sp. 11

- Mandible with two distal teeth; median clypeal lobe trapezoidal, with tooth no so large; basiparamere as narrow as paramere or much wide … 31

31. Basiparamere very wide basally; aedeagal ventral ramus much higher than aedeagal dorsal body (Figs 140–148) … *D.* sp. 13

- Basiparamere entirely narrow; aedeagal ventral ramus as long as or shorter than aedeagal dorsal body … 32

32. Paramere much longer than basiparamere; apex of aedeagal dorsal body translucent … 33

- Paramere as longer as basiparamere; apex of aedeagal dorsal body not translucent … 34

33. Tergal process with very shallow depression; aedeagal ventral ramus with median portion as wide as basal region, apical portion with inner margin serrated (Fig. 127) … *D. cervoides* Azevedo

- Tergal process without depression; aedeagal ventral ramus with median portion wider than basal region, apical portion with inner margin smooth (Figs 42, 134) … *D.* sp. 10

34. Aedeagal dorsal body narrowing abruptly apicad … 35

- Aedeagal dorsal body narrowing slightly apicad … 36

35. Tergal process with small depression; inner margin of aedeagal ventral ramus smooth, apex rounded (Figs 46, 150) … *D.* sp. 14

- Tergal process with large depression; inner margin of aedeagal ventral ramus serrated, apex truncate with rounded projection (Figs 44, 138) … *D.* sp. 12

36. Tergal process with shallow and small depression; apex aedeagal ventral ramus truncate and wide, inner margin strongly sinuous and smooth (Figs 40, 129) … *D.* sp. 8

- Tergal process with deep and large depression; apex aedeagal ventral ramus rounded and narrow, inner margin slightly sinuous and crenulate (Figs 41, 132) … *D.* sp. 9

37. Tergal process composed of tubercle with wide fovea and thick setae on border of each depression … 38

- Tergal process not as above … 43

38. Mandible with four distal teeth … 39

- Mandible with two distal teeth … 40

39. Median clypeal lobe ill-defined; apical lobes of aedeagal dorsal body very short; aedeagal ventral ramus simple (Figs 19, 173–174) … *D.* sp. 18

- Median clypeal lobe tridentate; apical lobes of aedeagal dorsal body regular sized; aedeagal ventral ramus with three long and conspicuous apical horns … *D. politus* Kieffer

40. Median clypeal carina very high in profile; anterior margin of pronotal disc carinate, aedeagal ventral ramus with slender and long ventral projection (Figs 20, 176) … *D.* sp. 19

- Median clypeal carina low in profile; anterior margin of pronotal disc ecarinate or coarse; aedeagal ventral ramus without slender and long ventral projection … 41

41. Tergal process with dense tuft of setae on tubercle; posterior hypopygeal margin straight; dorsal body entirely wide or nearly so; aedeagal ventral ramus with not translucent apex … 42

- Tergal process with short and sparse tuft of setae on tubercle; posterior hypopygeal margin concave; aedeagal dorsal body entirely narrow; aedeagal ventral ramus with translucent apex (Figs 49, 80, 171–172) … *D.* sp. 17

42. Tergal process with high tubercle and small pit; aedeagal dorsal body with slightly constriction near apical lobe; apex of aedeagal ventral ramus toothed (Figs 52, 177–178) … *D.* sp. 20

- Tergal process with low tubercle and large pit; aedeagal dorsal body with abruptly constriction near apical lobe; apex of aedeagal ventral ramus smooth (Figs 53, 179–180) … *D.* sp. 21

43. Metasoma with pair of lateral and anterior depression large, usually more than half of median length of tergite II … 44
- Metasoma with pair of lateral depression not bigger than half lenght of tergite II … 53

44. Inner margin of basivolsella toothed … 45
- Inner margin of basivolsella not toothed … 46

45. Basivolsella with tooth in apical portion; apex of outer pair of apical lobes of aedeagal dorsal body acute; base of digitus produced; apex of aedeagal ventral ramus bidentate (Figs 103–105) … *D. geniculatus* Azevedo
- Basivolsella with tooth in medial portion; base of digitus not produced; apex of aedeagal ventral ramus smooth; apex of outer pair of apical lobes of aedeagal dorsal body truncate … *D. octavus* Azevedo

46. Apex of aedeagal ventral ramus with two teeth, resembling fish tale in lateral view (Fig. 110) … *D. piscicercus* Azevedo
- Apex of aedeagal ventral ramus with rounded or acute apex not as above … 47

47. Apex of aedeagal ventral ramus rounded … 48
- Apex of aedeagal ventral ramus angulate or subangulate … 49

48. Aedeagal ventral ramus longer than aedeagal dorsal body, outer margin expandid on median portion; aedeagal dorsal body with four pairs of apical lobes; … *D. pedipalpoides* Azevedo
- Aedeagal ventral ramus much longer than aedeagal dorsal body, outer margin excaveted on median portion, dorsal body with three pairs of apical lobes … *D. trogon* Azevedo

49. Aedeagal ventral ramus with inner margin of apex bifurcated … 50

- Aedeagal ventral ramus with inner margin of apex not bifurcated … 51

50. Posterior hypopygeal margin concave, corners angulate; paramere very wide; aedeagal ventral ramus longer than aedeagal dorsal body; aedeagal dorsal body with three pairs of apical lobes, apex as wide as median and basal portion (Fig. 113) … *D. strepsus* Azevedo
- Posterior hypopygeal margin straight, corners rounded; paramere regular sized; aedeagal ventral ramus shorter than aedeagal dorsal body; aedeagal dorsal body with two pairs of apical lobes, apex narrower than median and basal portion … *D. latus* Azevedo

51. Posterior hypopygeal margin straight, with corners subangulate; aedeagal ventral ramus as long as aedeagal dorsal body or nearly so, apex straight …52
- Posterior hypopygeal margin concave with corners rounded; aedeagal ventral ramus shorter than aedeagal dorsal body, apex divergent (Fig. 107) … *D. intradentatus* Azevedo

52. Inner margin of paramere without pegs; apical lobes of aedeagal dorsal body elliptical; apex of aedegal ventral ramus subangulate ... *D. gladius* Azevedo
- Inner margin of paramere with four pegs; apical lobes of aedeagal dorsal body diamond-shaped; apex of aedegal ventral ramus abruptly acute ... *D. alticarinatus* Azevedo

53. Aedeagal ventral ramus tubular; aedeagal dorsal body with pair of basal process tridentate ... *D. brasiliensis* Kieffer
- Aedeagal ventral ramus laminar; aedeagal dorsal body not as above ... 54

54. Tergal process with tuft of setae with distinct long lateral setae … 55
- Tergal process not as above ... 56

55. Median clypeal lobe with three small teeth; apical lobes of aedeagal dorsal body long and narrow, narrowing slightly apicad … *D. gilvipes* Evans
- Median clypeal lobe with one angulate tooth; apical lobes of aedeagal dorsal body short and wide but narrowing abruptly apicad (Figs 16, 158) … *D.* sp. 15

56. Tergal process with pair of lateral drop-shaped pits, with elevated rim, sharp anteriorly and rounded posteriorly … *D. guttus* Azevedo

- Metasomal tergite not as above … 57

57. Tergal processes with pair inclined and linear depression … 58

- Tergal processes not as above … 59

58. Aedeagal ventral ramus much shorter than aedeagal dorsal body, apical half evenly arched, apex sharp ... *D. infissus* Evans

- Aedeagal ventral ramus as long as dosal body, apical half sinuous, apex narrow but rounded (Fig. 169) … *D. rufipalpis* Kieffer

59. Tergal process with tubercle … 60

- Tergal process without tubercle … 67

60. Apical lobes of aedeagal dorsal body mask-shaped (Figs 193–195) … *D. persontaus* Redighieri & Azevedo

- Apical lobes of aedeagal dorsal body without mask-shaped … 61

61. Mandible with two distal teeth … 62

- Mandible with four distal teeth … 64

62. Hypopygeal margin straight or nearly so; paramere wide; aedeagal dorsal body triangular-shaped … 63

- Hypopygeal margin concave; paramere very wide; aedeagal dorsal body bottle-shaped … *D. pilus* Alencar & Azevedo

63. Tergal process with deep depression; apical margin of paramere truncate; aedeagal ventral ramus as long as dorsal body, long, simple, curved outward (Figs 61, 210–211) … *D.* sp. 29

- Tergal process with shallow depression; apical margin of paramere convex; aedeagal ventral ramus shorter than dorsal body, wide, with apical margin inclined and straight, inner corner sharpened … *D. strabus* Azevedo

64. Median clypeal tooth angulate and very short; tubercle of tergal process without pit on top; apical lobes of aedeagal dorsal body connected to median portion of aedeagal body by four narrow projections (Figs 29, 60, 208) … *D.* sp. 28

- Median clypeal tooth regular sized; tubercle of tergal process with pit on top; apical lobes of aedeagal dorsal body not connected to median portion of aedeagal dorsal body as above … 65

65. Median clypeal carina angled in profile; basal margin of dorsal margin of paramere very projected; aedeagal ventral ramus with apical portion divergent (Figs 28, 206–207) … *D.* sp. 27

- Median clypeal carina straight in profile; basal margin of dorsal margin of paramere not as above; aedeagal ventral ramus with apical portion parallel … 66

66. Posterior hypopygeal margin slightly convex; apical portion of dorsal margin of paramere not excavated; apical lobes of aedeagal dorsal body long … *D. plaummani* Evans

- Posterior hypopygeal margin sinuous; apical portion of dorsal margin of paramere very excavated; apical lobes of aedeagal dorsal body very short (Figs 89, 204) … *D.* sp. 26

67. Tergal process with deeply excavated depression covered by a membrane; posterior hypopygeal margin strongly concave; dorsal margin of paramere very excavated (Figs 63, 94, 214) … *D.* sp. 31

- Tergal process not as above; posterior hypopygeal margin straight or slightly concave; dorsal margin of paramere not very excavated …68

68. Depression of tergal processes large and somewhat triangular, aedeagal ventral ramus laminar with apical wing-like expansion (Fig. 192) … *D. rettenmeyeri* Evans

- Tergal process without depression or with circular or subcircular depression, aedeagal ventral ramus not as above … 69

69. Basipamere about 2 × size of paramere; aedeagal dorsal body entirely narrow; aedeagal ventral ramus entirely very narrow (Figs 202–203) … *D.* sp. 25

- Basipamere as long as paramere or nearly so, aedeagal dorsal body entirely wide; aedeagal ventral ramus wide, at least on basal or/and medial portion … 70

70. Apical lobes of aedeagal dorsal body very short; aedeagal ventral ramus with inner margin concave at apical half with long median filament … *D. xanthopus* Ashmead
- Apical lobes of aedeagal dorsal body very long or regular sized; aedeagal ventral ramus without long median filament … 71

71. Anterior margin of pronotal disc carinate; apex of apical lobes of aedeagal dorsal body laterad; apex of aedeagal ventral ramus convergent (Figs 200–201) … *D.* sp. 24
- Anterior margin of pronotal disc not as above; apex of aedeagal ventral ramus divergent, apex of apical lobes of aedeagal dorsal body not as above …72

72. Anterior margin of pronotal disc carinate; posterior hypopygeal margin straight or nearly so; aedeagal ventral ramus wide, shorter than aedeagal dorsal body with translucent apex (Figs 86, 198) … *D.* sp. 23
- Anterior margin of pronotal disc not as above; posterior hypopygeal margin slightly convex; aedeagal ventral ramus narrow and slender, as long as aedeagal dosal body, apex not translucent … *D. punctatus* (Kieffer).

***altivolans* species-group**

Diagnosis. Male. Metasoma with median depression, dense tufts of setae. Digitus serrated with rounded teeth inner uper margin. Aedeagal ventral ramus wide.

Remarks. It has six species: *D. altivolans* Evans, *D. deformis* Evans, *D. megomphalus* Evans, *D. subdeformis* Azevedo, *D. lanceolatus* Azevedo and *D.* sp. 1.

Distribution. Ranging from northern of the U.S.A. to north of Argentina, including some Caribean islands.

***Dissomphalus* sp. 1**
(Figs 1–2, 33, 64, 95–96)

Description. Male. Color: body castaneous. Head (Fig 1–2). Mandible with three distal teeth. Median clypeal lobe ill-defined, with one rounded and very large tooth, with high

keel; median clypeal carina very high in profile, incomplete apically, straight in profile or nearly so. Gena with spine. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig 33). Tergal process median, with very shallow, subcircular and large depression, without tubercle, with short and dense tuft of setae. Posterior hypopygeal margin straight with median concavity (Fig. 64). Genitalia (Fig 95–96). Paramere with dorsal margin entirely wide and sinuous; apical margin truncate. Aedeagal ventral ramus as long as dorsal body, wide, progressively narrowing apicad; cross section laminar; ramous bifid; surface horizontal; inner margin straight; outer margin slightly sinuous; apex long, simple, parallel; additional inner ramus short; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, subvertical and narrow, with apical margin angled and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is easily recognized by having a very large median clypeal tooth, wich shows high keel in profile view, gena with spine, the dorsal margin of paramere very sinuous with long and thick setae, and the aedeagal ventral ramus bifid. This species is similar to *D. cornutus* Evans by having a spine in ventral region of head. However, this species has large spine in gena, whereas *D. cornutus* has a shorter spine in hypostomal carina.

Material examined. Holotype, ♂, PANAMA, *Panama Pr[ovince]*: P[arque] Nac[ional] Altos de Campana, [08º43'15"N, 80º01'43"W], 10–14 ago 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP). Paratypes: *Coclé Pr[ovince]*: 1♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 1♂, same province of holotype, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, 79º43'W], 24 ago.–2 sep.1999, [Trampa] Malaise, A. Santos, P. González [col.] (MIUP).

Distribution. Panama (Coclé and Panama).

amplus species-group

Diagnosis. Male. Head regularly wide. Mandible regularly long. T2 without tergal process. Aedeagal ventral ramus without apical filament. Aedeagal dorsal body without apical flagellae.

Remarks. It has eight species: *D. amplus* Redighieri & Azevedo, *D. clovisi* Colombo & Azevedo, *D. kuara* Colombo & Azevedo, *D. pyata* Colombo & Azevedo, *D. miriamae* Colombo & Azevedo, *D.* sp. 2, *D.* sp. 3 and *D.* sp. 4.

Distribution. Brazil (Espírito Santo) and Panama.

***Dissomphalus* sp. 2**

(Figs 3, 34, 65, 97–98)

Description. Male. Color: head and mesosoma castaneous; metasoma light castaneous. Head (Fig 3). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina high in profile, complete or nearly so, angled in profile. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig 34). Tergal process absent. Posterior hypopygeal margin sinuous (Fig. 65). Genitalia (Figs 97–98). Paramere with dorsal margin wide basally; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin slightly sinuous; apex short, simple, parallel; additional inner ramus absent; basal stub short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and narrow, with apical margin acute and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is easily recognized by having the paramere entirely wide with apex very excavated, the outer lobes of aedeagal dorsal body with distal region mesad and L-shaped, and the apex of aedeagal ventral ramus acute. This species is similar to *D.* sp. 26 by having apex of paramere very excavated, dorsal margin almost straight and basiparamere shorter than paramere. However, this species has apical lobes of aedeagal dorsal body long and apex of aedeagal ventral ramus abruptly acute, whereas *D.* sp. 26 has apical lobes of aedeagal dorsal body very short and aedeagal ventral ramus progressively narrowing apicad.

Material examined. Holotype, ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP). Paratypes: 4♂, same data as holotype (MIUP); 1♂, Par[que] Nac[ional] Humedal de San[-]San Pond Sac. {=Sak},

[09°28'27.3"N, 82°27'18"W], 26–28 Oct. 1999, Tr[ampa] Malaise, A. Santos [col.] (MIUP).

Distribution. Panama (Bocas del Toro).

***Dissomphalus* sp. 3**

(Figs 4, 35, 66, 99–100)

Description. Male. Color: head and mesosoma castaneous; metasoma light castaneous. Head (Fig 4). Mandible with three distal teeth. Median clypeal lobe subtrapezoidal, with one angulate tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig 35). Tergal process absent. Posterior hypopygeal margin sinuous (Fig. 66). Genitalia (Fig 99–100). Paramere with dorsal margin wide basally; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin sinuous; apex long, crenulate, slightly curved outward; additional inner ramus absent; basal stub short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, horizontal and wide, with apical margin straight and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Description. Female (Fig. 216). Length of body 1.30 mm. Head, clypeus, mesonotum, metanotum, leg and petiole light castaneous, eye black. Head 1.46 × as long as wide, side parallel slightly convex. Frons densely coriaceous, punctures large, dense and shallow. Mandible with four apical teeth, lower one larger. Clypeus with subtrapezoidal median lobe and median carina high. Eye with two facets, subcircular, distant from mandible 1.66 × its length. Vertex concave; occipital carina visible in dorsal view. Gena 0.42 × length of head. Mesosoma coriaceous. Pronotal collar 0.32 × length of pronotal disc, 1.19 × as long as wide. Mesoscutum 0.48 × length of pronotal disc, posterior margin convex. Propodeal disc long, 1.62 × as long as wide; spiracle placed at dorsolateral of propodeum, attached to lateral carina. Legs not spinose. Metasoma polished, 0.86 × as long as mesosoma. Petiole short with anterior margin in v-shaped and rugose.

Remarks. This species is easily recognized by having eyes bulging, dorsal margin of paramere very expanded distally downward and apical margin of aedeagal dorsal body crenulate. This species is similar to *D. krombeini* Azevedo by having apical portion of

dorsal margin of paramere excavated and aedeagal dorsal body abruptly narrowing apicad. However, this species has dorsal margin of paramere with distal margin expanded downward, apical margin of aedeagal dorsal body crenulate and the tergal process absent, whereas *D. krombeini* has dorsal margin of paramere with distal margin not expanded downward, apical margin of aedeagal dorsal body smooth and has tergal process with tuft of setae with one distinctly long setae.

Material examined. Holotype, ♂, *Darién*: P[arque] N[acional] Darién, Pirre, 900m, Est[acion] Rancho Frio, 21 mar–4ab 2000, Tr[ampas] ama[rillas], Cambra, Santos, Bermudez (MIUP). Allotype *in copula*, ♀, same data as holotype. Paratypes: *Bocas del Toro*: 5 ♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos [col.] (MIUP); *Chiriqui Pr[ovince]*: 28♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30 oct.–5 nov. 1994, Tr[ampa] Malaise (25♂) and Tr[ampas] Amarillas (3♂), A. Rodriguez [col.] (MIUP); 10 ♂, 2 km W Cerro Punta, 1700 m, [08°51'N, 82°35'W], 19. V–8.VI.1977, Peck & Howden [col.] (CNCI); 8 ♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (7♂) and 2.VI.2000, Howden [col.] (1♂) (CNCI); 3♂, La Fortuna Dam, 1200 m, wet forest, [08°44'39"N, 82°14'58"W], 14–VI–16.VII–1982, F[light] I[nterception] T[rap], B. Gill [col.] (1♂, PMAE), (2♂, CNCI); 1♂, Quebrada de la Mina, 1249 m, 8°39'46"N, 82°12'30"W, 27–28. V.2000, Y[ellow] P[an] T[rap], B. & J. Gill [col.] (CNCI); *Veraguas Pr[ovince]*: 8♂, P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 200 m, [07º28'09"N, 81º45'24"W], 30–nov–4–dic.1998, [Trampa] Malaise, R. Cambra, S. Bermudez [col.] (1♂), 0m (1♂), 29 jul – 4 ag 1998, 120m (2♂), 100m (1♂), 8–12 mar 1998, 90m (3♂); *[Los Santos]*: 2♂, Ojo de Agua, [07°31'N, 80°25'W], 30.VI–14.VII.1982, B. Gill [col.] (PMAE); *Coclé Pr[ovince]:* 3♂ El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panama Pr[ovince]*: 2♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 89º32'41"W], 24 ago.–3 sep.1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 1♂, same data as holotype, except Malaise (MIUP); 1♂, same data as holotype, except 1000 m (MIUP); 1♂, same data as holotype, except 580m (MIUP); 1♂, same province of holotype, Cana, 1380 m, [07°51'N, 87°37'W], 4–7.VI.1986, F[light] I[nterception] T[rap], [J.] Ashe & [R.] Brooks [col.] (CNCI); 1♂, same province of holotype, Estac[ion] Cruce

de Mono, P[arque] Nac[ional] Darién, [07°51'26.3"N, 87°28'12.7"W], 6 feb–4 mar 1993, tr[ampa] Malaise, R. Cambra, J. Coronado [col.] (MIUP).

Distribution. Panama (Bocas del Toro, Chiriqui, Veraguas, Los Santos, Coclé, Panama and Darién).

***Dissomphalus* sp. 4**

(Figs 5, 36, 67, 101–102)

Description. Male. Color: body castaneous. Head (Fig. 5). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina low in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 36). Tergal process absent. Posterior hypopygeal margin straight or nearly so (Fig. 67). Genitalia (Figs 101–102). Paramere with dorsal margin entirely wide; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body, wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin sinuous; outer margin slightly sinuous; apex short, simple, parallel; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and wide, with apical margin rounded and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is easily recognized by having the genitalia robust, the lobes of aedeagal dorsal body with apical region more expanded, rounded, laminar and the aedeagal ventral ramus very wide. This species is similar to *D.* sp. 23 by having dorsal margin of paramere rounded, outer lobes of aedeagal dorsal body long and aedeagal ventral ramus wide. However, this species has the apex of apical lobes of aedeagal dorsal body rounded and laminar the apex of aedeagal ventral ramus without projections, whereas *D.* sp. 23 has apex of aedeagal ventral ramus not rounded nor laminar and the apex of aedeagal ventral ramus with two small rounded projections.

Material examined. Holotype, ♂, PANAMA, *Veraguas Pr[ovince]*: P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 120 m, [07º28'09"N, 81º45'24"W], 29 jul–4 ag 1998, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: 1♂, same data as holotype; *Panama Pr[ovince]*: 1♂, [Panama], P[arque] N[atural] Metropolitano, [08º59'33"N, 89º32'41"W], 24 ago.–3 sep.1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Darién Pr[ovince]*: 3♂, P[arque] N[acional] Darién, Pirre,

Est[ación] Rancho Frio, 80 m, [08°00'N, 87°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP).

Distribution. Panama (Veraguas, Panama and Darién).

***bicavatus* species-group**

Diagnosis. Male. Mandible bidentate. Pronotal disc usually with texture and punctures as frons. Mesoscutum and scutellum with texture weaker, punctures smaller than those of frons. Metasoma with pair of lateral and anterior depression, large usually more than 0.5 × median length of tergite II. Hypopygeal median stalk slender. Female. Mandible tetradentate. Clypeus tridentate. Metapectal propodeal disc with sides nearly parallel.

Remarks. It has 34 species: *D. abruptus* Azevedo, *D. alticarinatus* Azevedo, *D. archeatus* Azevedo, *D. basivolsellus* Azevedo, *D. bivolsellus* Azevedo, *D. curvilongus* Azevedo, *D. elongatus* Azevedo, *D. falciformes* Azevedo, *D. flagellatus* Azevedo, *D. geniculatus*, *D. gladius* Azevedo, *D. intradentatus*, *D. largimanus* Azevedo, *D. latus* Azevedo, *D. lobisserratus* Azevedo, *D. longimerus* Azevedo, *D. longipilosus* Azevedo, *D. mantoides* Azevedo, *D. megadentatus* Azevedo, *D. microdentatus* Azevedo, *D. octavus* Azevedo, *D. pedipalpoides* Azevedo, *D. piscicercus*, *D. rectangularis* Azevedo, *D. retorcerens* Azevedo, *D. sinuatus* Azevedo, *D. spiculus* Azevedo, *D. strepsus*, *D. subtriangularis* Azevedo, *D. tetracerutus* Azevedo, *D. tetralobatus* Azevedo, *D. trogon* Azevedo, *D. tropoides* Azevedo, *D. falcatus* Evans and *D. bicavatus* Evans.

Distribution. Ranging from South of Mexico to Southeastern Brazil (São Paulo).

***Dissomphalus geniculatus* Azevedo, 2001**
(Figs 103–105)

Dissomphalus geniculatus Azevedo, 2001: 174, 185–186 (♂, holotype from Costa Rica, EMUS, figs 67–68).

This species is known to Costa Rica and Panama and now more specimens are added. In this series the specimens are quite similar to those previously studied, without any variation that worth to mention.

Material examined. PANAMA, *Bocas del Toro Pr[ovince]*: 1♂, Par[que] Nac[ional] Humedal de San[-]San Pond Sac {=Sak}, [09°28' 27.3"N, 82°27'18"W], 26–28 Oct.

1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); *Darién Pr[ovince]*: 1♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP).

***Dissomphalus intradentatus* Azevedo, 2001**

(Figs 106–108)

Dissomphalus intradentatus Azevedo, 2001: 174, 186–187 (♂, holotype from Panama, PMAE, figs 82–88).

This species is known to Panama, here more specimens are added. In this series: median clypeal tooth angulate; median clypeal carina complete apically; vertex crest straight. Anterior margin of pronotal disc ecarinate. Mesosoma and metasoma castaneous. Basal process of aedeagal dorsal body without teeth.

Material examined. PANAMA, *Darién Pr[ovince]*: 14♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 87°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP); 2♂, Cruce de Mono: Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], Parque] nacional Darién, [07°51'26.3"N, 87°28'12.7"W], 5–28 feb 1993, Tr[ampas] Amarillas, R. Cambra, J. Coronado [col.] (MIUP).

***Dissomphalus piscicercus* Azevedo, 2001**

(Figs 109–112)

Dissomphalus piscicercus Azevedo, 2001: 174, 196–197 (♂, holotype from Panama, PMAE, figs 148–154).

This species is known only to Panama and now more specimens are added. In this series the specimens are quite similar to those previously studied, without any variation that worth to mention.

Material examined. PANAMA, *Veraguas Pr[ovince]*: 1♂, P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 120 m [07º28'09"N, 81º45'24"W], 29 jul–4 ag 1998, Malaise, R. Cambra, A. Santos [col.] (MIUP); 1♂, Isla Coiba, Estación biológica, [07º28'09"N, 81º45'24"W], 4–8 Agosto 1998, [trampas] Amarillas, Col. L. D., R. C., A. A., A. S. (MIUP); *Darién Pr[ovince]*: 60♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho

Frio, 80 m, [08°00'N, 87°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (59♂) and 24–26 marzo, 450m, col. A. Santos (1♂) (MIUP).

***Disomphalus strepsus* Azevedo, 2001**
(Figs 103–115)

Dissomphalus strepsus Azevedo, 2001: 175, 200–201 (♂ holotype from Costa Rica EMUS, figs, 175–179).

This species is known to Panama and Costa Rica. Now one specimen is added. In this series the specimens are quite similar to those previously studied, without any variation that worth to mention.
Material examined. PANAMA, *Darién*: 1♂ Cana Serrania de Pirre, 1250m, 4–7.vi.1996, J. Ashe, R. Brooks (UFES).

***bifoveatus* species-group**

Diagnosis. Male. Metasoma with median large depression; pair of tubercles. Aedeagal ventral ramus narrow, much arched outward medially, apex abruptly angulate, straight and diverging.

Remarks. It has six species: *D. bifoveatus* Kieffer, *D. microculus* Azevedo, *D. angulatus*, *D.* sp. 5, *D.* sp. 6 and *D.* sp. 7.

Distribution. Mexico (Durango, Morelos, Chiapas), Nicaragua, Costa Rica and Panama.

***Dissomphalus angulatus* Azevedo, 1999**
(Fig 116–119)

Dissomphalus angulatus Azevedo, 1999: 331–332 (♂, holotype from Costa Rica, CNCI, figs 49, 173–174).

This species was known to Costa Rica (Azevedo 1999a). Now it is recorded for the first time from Panama. In this series: median clypeal tooth short. Anterior margin of pronotal disc coarse. Metasoma light castaneous and dark castaneous; depression of tergal process shallow, more distant each other with few and shorter tuft of setae, some specimens have dense and longer tuft of setae.

Material examined. PANAMA, *Chiriqui*: 4♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, (3♂) and 2–6.VI.2000 (1♂), F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 2♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30 oct.5 nov 1994, Tr[ampa] Malaise, (1♂) and 1600 m, 30 oct 1994, T[rampa] Amarilla (1♂), A. Rodriguez [col.] (MIUP); 5♂, 2 km W Cerro Punta, 1700 m, [08°51'N, 82°35'W], 19.V–8.VI.1977, Peck & Howden [col.] (CNCI); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI).

***Dissomphalus* sp. 5**

(Figs 6, 37, 68, 120–121)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig 6). Mandible with two distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig 37). Tergal process with median, shallow, subcircular and large depression, with small, low and dorsad tubercle placed on center of depression, pit very small, with short and dense tuft of setae. Posterior hypopygeal margin strongly concave (Fig. 68). Genitalia (Fig 120–121). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface subvertical; inner margin sinuous; outer margin sinuous; apex long, toothed, angled outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body two pairs of apical lobes; outer lobe long, horizontal and wide, with apical margin acute and dorsad inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Remarks. This species is easily recognized by having the dorsal margin of paramere almost straight, the apex of outer lobe of aedeagal dorsal body abruptly acute, the aedeagal ventral ramus with a large fold and the genital ring bifurcated in distal region in ventral view. This combination of characters is unusual for *bifoveatus* species-group.

Material examined. Holotype, ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP). Paratypes: 5♂, same data as holotype.

Distribution. Panama (Bocas del Toro).

***Dissomphalus* sp. 6**

(Figs 7, 38, 69, 122–123)

Description. Male. Color: body dark castaneous. Head (Fig. 7). Mandible with two distal teeth. Median clypeal lobe ill-defined, with one angulate very short tooth; median clypeal carina low in profile, incomplete apically, angled in profile. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin carinate. Metasoma (Fig. 38). Tergal process with shallow, subcircular and large depression, with very small, very low and posterad tubercle placed on inner area of depression, pit very small with short tuft of setae. Posterior hypopygeal margin weakly concave (Fig. 69). Genitalia (Figs 122–123). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface subvertical; inner margin sinuous; outer margin sinuous; apex long, crenulate, curved outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and wide, with apical margin crenulate and laterad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Remarks. This species is similar to *D. sp. 5* by having the aedeagal ventral ramus with toothed apex and the paramere with crenulate apex. However, it species has the apical lobes of aedeagal dorsal body long, with laterad apex and the paramere with dorsal margin sinuous, whereas *D. sp. 5* has the apical lobes of aedeagal dorsal body shorter with dorsad apex and the paramere with dorsal margin almost straight.

Material examined. Holotype, ♂, *Coclé Pr[ovince]*: El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP).

Paratypes: 2♂, same data as holotype; *Panama Pr[ovince]*: 2♂, P[arque] Nac[ional] Altos de Campana, [08º43'15"W, 80º01'43"W], 10–14 ago 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP).

Distribution. Panama (Coclé and Panama).

***Dissomphalus* sp. 7**

(Figs 8, 39, 70, 124–125)

Description. Male. Color: body dark castaneous. Head (Fig. 8). Mandible with three distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina high in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 39). Tergal process with median deep, subcircular and large depression, without tubercle, pit absent, with short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 70). Genitalia (Figs 124–125). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface subvertical; inner margin slightly sinuous; outer margin sinuous; apex long, simple, angled outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, subhorizontal and narrow, with apical margin abruptly acute and ventrad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Median clypeal tooth longer. Metasoma castaneous.

Remarks. This species is easily recognized by having the apical lobes of aedeagal dorsal body short and triangular, the median portion of aedeagal ventral ramus sinuous and narrow. This species is similiar to *D. sp. 5* by having the paramere with dorsal margin almost straight and apex of aedeagal dorsal body curved outward. However, this species has the apical lobes of aedeagal dorsal body short, narrowing apicad and the apical portion of aedeagal ventral ramus slender and smooth, whereas *D. sp. 5* has the apical lobes of aedegal dorsal body longer, abruptly acute and the apical portion of aedegal ventral ramus toothed.

Material examined. Holotype, ♂, PANAMA, *Chiriqui*: Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 2–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI). Paratypes: 1♂, same data as holotype; 2♂, same data as holotype

except 25–6.VI.2000 (CNCI); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI).

Distribution. Panama (Chiriqui).

***brasiliensis* species-group**

Diagnosis. Male. Mandible tridentate. Clypeus broad. Aedeagal ventral ramus tubular. Aedeagal dorsal body small.

Remarks. It has two species: *D. brasiliensis* and *D. tubulatus* Redighieri & Azevedo.

Distribution. Panama, Venezuela, Guiana, Suriname, Ecuador, Peru, Brazil (Rondônia, Acre, Paraíba, Espírito Santo and São Paulo) and Argentina.

***Dissomphalus brasiliensis* Kieffer, 1910**

Dissomphalus brasiliensis Kieffer, 1910b: 295 (♂, holotype from Pará, CASC); Redighieri & Azevedo, 2006: 319–320.
Dissomphalus bispinulatus Evans, 1969: 13, 19–20. Synonimized by Redighieri & Azevedo, 2006.
Dissomphalus hastatus Evans, 1979: 276–277, 281–283. Synonymized by Azevedo, 1999b.

This species is known to Panama, Venezuela, British Guiana, Suriname, Ecuador Peru, Brazil (Rondônia, São Paulo) and Argentina (Salta). Here two specimens are added. In this series: median clypeal lobe ill defined with one rounded tooth; median clypeal carina high in profile; vertex crest straight. Pronotal disc with margin ecarinate. Paramere longer than aedeagal dorsal body. Basiparamere shorter than paramere. Aedeagal dorsal body with inner margin concave in median portion.

Material examined. PANAMA, *Veraguas Pr[ovince]*: 2 ♂, P[arque] N[acional] Coiba, Isla Coiba, Cerro La Equis, 90 m, [07º28'09"N, 81º45'24"W], 30–nov.–4dic.1998, Malaise, R. Cambra, S. Bermudez [col.] (MIUP).

***conicus* species-group**

Diagnosis. Male. Median clypeal lobe trapezoidal, except *D. filus* Azevedo and *D.* sp. 11. Metasoma with pair lateral tergal process, tubercle, pit on top and tuft of setae.

Remarks. It has 19 species: *D. cervoides*, *D. conicus* Azevedo, *D. curviventris* Azevedo, *D. filus*, *D. manus* Azevedo, *D. truncatus* Azevedo, *D. umbilicus* Azevedo, *D. h-ramus* Redighieri & Azevedo, *D. laminaris* Redighieri & Azevedo, *D. verrucosus* Redighieri & Azevedo, *D. botocudus* Colombo & Azevedo, *D.* sp. 8, *D.* sp. 9, *D.* sp. 10, *D.* sp. 11, *D.* sp. 12, *D.* sp. 13 and *D.* sp. 14.

Distribution. Panama, Trinidad & Tobago, Ecuador, Peru, Brazil (Amazonas, Pará, Rondônia, Ceará, Pernambuco, Mato Grosso, Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina), Bolivia.

***Dissomphalus cervoides* Azevedo, 2003**
(Figs 126–127)

Dissomphalus cervoides Azevedo, 2003: 31–32 (♂, holotype from Pará, MPEG, figs 33–36).

This species is known to Panama, Trinidad & Tobago, Ecuador, Peru, Brazil (Amazonas, Pará, Rondônia, Mato Grosso, Goiás) and Bolivia (Azevedo 2003). Here more specimens are added. In this series: mesosoma castaneous, metasoma light castaneous. Median clypeal tooth angulate; median clypeal carina straight. Pronotal disc ecarinate. Tergal process without depression.

Material examined. PANAMA, *Colón:* 8♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); 4♂, S[an]ta Rita [Arriba], Macizo, Parador Sierra Llorona, [09°19'57.1"N, 79°45'1.6"W], 22 dic. 1997, T[rampa] Malaise, D. Quintero [col.] (MIUP); *Darién Pr[ovince]*: 1♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 230 m, [08°00'N, 77°45'W], 21 mar–4ab 2000, Malaise, Cambra, Santos, Bermudez [col.] (MIUP).

***Dissomphalus* sp. 8**
(Figs 9, 40, 71, 128–130)

Description. Male. Color: body castaneous. Head (Fig. 9). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 40). Tergal process with lateral, shallow, circular and small depression, with large, very low and dorsad tubercle placed on center of depression, pit large, with short and sparse tuft of setae. Posterior hypopygeal margin median straight with angled corners (Fig. 71). Genitalia (Figs 128–130). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, entirely wide, cross section laminar; surface vertical; inner margin strongly sinuous; outer margin slightly sinuous; apex long, slightly crenulate, parallel; additional inner ramus long; basal stub long and narrow. Aedeagal dorsal body with two pairs of apical lobes, outer lobe long, vertical and very narrow, with apical margin acute and ventrad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Metasoma light castaneous.

Remarks. This species is easily recognized by having two spines in ventral margin of apical lobes of aedegal dorsal body with apical spine shorter than distal one, the aedegal ventral ramus vertical and wide in median portion with wavy apex. This species is similar to *D.* sp. 14 by having spine in ventral margin of apical lobes of aedeagal dorsal body and aedeagal ventral ramus entirely wide with inner margin sinuous. However, this species has dorsal margin of paramere sinuous, apex of basal bar not projected forward, and apical margin of aedeagal dorsal body wavy, whereas *D.* sp. 14 has dorsal margin of paramere not sinuous, apex of basal bar projected forward and apical margin of aedeagal ventral ramus not wavy.

Material examined. Holotype, ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP). Paratypes: 9♂, same data as holotype.

Distribution. Panama (Bocas del Toro).

***Dissomphalus* sp. 9**

(Figs 10, 41, 72, 131–132)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig 10). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina high in profile, complete or nearly so, convex in profile. Frons strongly coriaceous and punctures large. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 41). Tergal process with lateral, deep, subcircular and large depression, with small, low and dorsad tubercle placed on anterior area of depression, pit small, with long and sparse tuft of setae. Posterior hypopygeal margin sinuous (Fig. 72). Genitalia (Figs 131–132). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface vertical; outer margin and inner margin slightly sinuous; apex long, simple, parallel; additional inner ramus long; basal stub short and narrow. Adeagal dorsal body with pair of apical lobe; outer lobe long, vertical and very narrow, with apical margin crenulate and ventrad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Tergal process with very shallow depression and without tubercle.

Remarks. This species is similar to the *D.* sp. 12 by having dorsal margin of paramere sinuous, apex of basal bar projected forward and inner margin of aedeagal ventral ramus crenulate. However, this species has apex of basal bar smooth, ventral margin of apical lobes of aedeagal dorsal body not excavated and apical margin of aedeagal ventral ramus smooth, whereas *D.* sp. 12 has apex of basal bar crenulate, ventral margin of apical lobes of aedeagal dorsal body deeply excavated and apical margin of aedeagal ventral ramus with a small projection anterad.

Material examined. Holotype ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP). Paratypes: 7♂, same data as holotype; *Coclé Pr[ovince]*: 1♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP).

Distribution. Panama (Bocas del Toro and Coclé).

***Dissomphalus* sp. 10**

(Figs 11, 42, 73, 133–134)

Description. Male. Color: body dark castaneous. Head (Fig. 11). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina low in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 42). Tergal process lateral, without depression, low and posterad tubercle, pit small, with short and dense tuft of setae. Posterior hypopygeal margin weakly concave (Fig. 73). Genitalia (Figs 133–134). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus higher than dorsal body, wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin excavated; outer margin sinuous; apex short, translucent, wavy, parallel, additional inner ramus short; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, subhorizontal and wide, with apical margin rounded and ventrad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Tergal process closer to each other; tubercle higher; few setae.

Remarks. This species is easily recognized by having the paramere narrow with dorsal margin straight, very acute apex, the basivolsella wavy and the basal bar in median portion of aedeagal dorsal body projected forward. This species is similar to the *D. cervoides* by having the apex of aedeagal ventral ramus laminar, translucent with two expansions. However, this species has the paramere narrow, the aedeagal ventral ramus wide with inner margin of apex smooth and the basivolsella wavy, whereas *D. cervoides* has the paramere not so straight, the aedeagal ventral ramus narrower with inner margin of apex serrated and the basivolsella not wavy.

Material examined. Holotype, ♂, PANAMA, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: *Bocas del Toro*: 1♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); *Chiriqui*: 3♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); *Veraguas Pr[ovince]*: 2♂, P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 0 m, [07º28'09"N, 81º45'24"W], 30.nov–4.dic.1998, Malaise, R. Cambra, S. Bermudez [col.] (1♂) and 6–11 mar 1998, Tr[ampa] R. Cambra, A. Santos (1♂) (MIUP); *Panama Pr[ovince]*: 1♂, Cerro Azul, Las Nubes, [09º10'N, 79º25'W], 9–15–oct.1999, Malaise, R. Cambra, A. Santos [col.] (MIUP); 1♂, C[anal]

Z[one], B[arro] Colorado Is[land], [09°09'N, [79°51'W], 15–31.VII.1994, F[light] I[nterception] T[rap], D. Banks [col.] (CNCI); 5♂ same data as holotype; 1♂, same province of holotype, Cruce de Mono: Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], [07°51'26.3"N, 77°28'12.7"W], 6.II–4.III.1993, t[rap] Malaise, R. Cambra, J. Coronado [col.] (MIUP).

Distribution. Panama (Bocas del Toro, Chiriqui, Veraguas, Panama and Darién).

***Dissomphalus* sp. 11**

(Figs 12, 43, 74, 135–136)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 12). Mandible with three distal teeth. Median clypeal lobe ill- defined, with one angulate very large tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly convex. Pronotal disc weakly coriaceous; anterior margin carinate. Metasoma (Fig. 43). Tergal process with lateral deep, subcircular and large depression, with small, low and dorsad tubercle placed on center of depression, pit small, with short and sparse tuft of setae. Posterior hypopygeal margin weakly concave (Fig. 74). Genitalia (Figs 135–136). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin slightly sinuous; apex long, simple, parallel; additional inner ramus absent; basal stub short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and wide, with apical margin rounded and ventrad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Tergal process with very shallow depression.

Remarks. This species is easily recognized by having the median clypeal tooth very long, the base of outer margin of apical lobes of aedeagal dorsal body with two small rounded and anterad projections. This species is similar to *D. longiclypeus* Azevedo by having median clypeal tooth long. However, this species has tergal process lateral, apical lobes of aedeagal dorsal body long and aedeagal ventral ramus with inner margin of apex

excavated, whereas *D. longiclypeus* has tergal process median, aedeagal dorsal body short and aedeagal ventral ramus not excavated.

Material examined. Holotype, ♂, PANAMA, *Chiriqui Pr[ovince]*: P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30 oct–5 nov.1994, Tr[ampas] Amarillas, A. Rodriguez [col.] (MIUP). Paratypes: 2♂, same data as holotype; 1♂, 2 km W Cerro Punta, 1700 m, [08°51'N, 82°35'W], 19.V–8.VI.1977, Peck & Howden [col.] (CNCI).

Distribution. Panama (Chiriqui).

***Dissomphalus* sp. 12**

(Figs 13, 44, 75, 137–139)

Description. Male. Color: body castaneous. Head (Fig. 13). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin coarse. Metasoma (Fig. 44). Tergal process lateral with shallow, subcircular and large depression, with small, low and dorsad tubercle placed on anterior area of depression, pit large, with short and sparse tuft of setae. Posterior hypopygeal margin sinuous (Fig. 75). Genitalia (Figs 137–139). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, entirely wide with small projection apicad; cross section laminar; surface vertical; inner margin sinuous, outer margin sinuous; apex short, simple, parallel; additional inner ramus long; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe, long, vertical and very narrow, with apical margin crenulate and dorsad; inner pair, stout, membranous and setose; Apodeme not extending beyond genital ring.

Variations. Depression of tergal process deep or very shallow.

Remarks. This species is easily recognized by having the ventral margin of apical lobes of aedeagal dorsal body deeply excavated, the apex of basal with apex projected forward, the aedeagal ventral ramus vertical and apex with a small projection anterad. This species is similar to *D.* sp. 9 by having the dorsal margin of paramere sinuous, apex of basal bar projected forward and inner margin of aedeagal ventral ramus crenulate. However, this species has the apex of basal bar crenulate, ventral margin of aedeagal

dorsal body deeply excavated and apical margin of aedeagal dorsal body with small anterad projection, whereas *D.* sp. 9 has the apex of basal bar smooth, the ventral margin of apical lobes of aedeagal dorsal body not excavated and aedeagal ventral ramus without projection.

Material examined. Holotype, ♂, PANAMA, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: *Bocas del Toro*: 1♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ap] Malaise, A. Santos[col.] (MIUP); 4♂, same data as holotype; 1♂, same data as holotype except 450m, 24–26 marzo, col. A. Santos (MIUP).

Distribution. Panama (Bocas del Toro and Darién).

***Dissomphalus* sp. 13**

(Figs 14, 45, 76, 140–148)

Description. Male. Color: head and mesosoma dark castaneous; metasoma light castaneous. Head (Fig. 14). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina high in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly convex. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 45). Tergal process with lateral, shallow, circular and large depression, with small, low and laterad tubercle placed on inner area of depression, pit small, with short tuft of setae. Posterior hypopygeal margin sinuous (Fig. 76). Genitalia. (Figs 140–148). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus higher than dorsal body, wide, progressively narrowing apicad; cross section laminar; ramous bifid; surface horizontal; inner margin sinuous; outer margin sinuous; apex long, simple, curved outward; additional inner ramus long; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and narrow, with apical margin rounded and mesad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Head dark castaneous; frons coriaceous; median clypeal lobe subtrapezoidal. Metassoma castaneous; depression of tergal process very shallow or without depression, with very low, very small and without tubercle. This species has two

different aedeagal ventral ramus and apical lobes of aedeagal dorsal body: aedeagal ventral ramus lower than aedeagal dorsal body; apical margin entirely wide with rounded and posterad apex; aedeagal ventral ramus with apex narrow and two small and laterad projections. Apical lobe narrow in sickle shaped with teeth in inner margin and apical lobes with acute apex and inner margin smooth.

Remarks. This specie is similar to *D. piscicercus* by having the paramere entirely wide and the basiparamere very wide. However, this species has the tergal process with tubercle, small and shallow depression, the aedeagal ventral ramus with simple apex and the apex of basal bar straight with two laterad teeth, whereas *D. piscicercus* has the tergal process with ovoid, deep, large depressions nearly touching the posterior margin of tergite I, with pit, tuft of long setae, the aedeagal ventral ramus with two large apical teeth and the basal bar without two laterad teeth.

Material examined. Holotype, ♂, PANAMA, *Chi[riqui]*: Hartmans Finca, 28.VI–3.VII.1981, (PMAE). Paratypes: *Bocas del Toro*: 7 ♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); 5♂, same data as holotype; 6♂ same data as holotype except 3–VII1981, B. Gill [col.] (PMAE); 1♂, same province of holotype, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 2–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 1♂, same province of holotype, 5,6 km N Boquete, La Culebra trail, [08°49'23"N, 82°25'18"W], F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); 2♂, same province of holotype, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 7♂, same province of holotype, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30oci.5nov.1994, Tr[ampa] Malaise, A. Rodriguez [col.] (2♂) (MIUP) and 1875m, [08° 54, 7'N 82° 47,3'W] 17–18.vi.1996, F[light] I[interception] T[rap], J Ashe, R. Brooks (5♂) (UFES); *[Los Santos]*: 2♂, Ojo de Agua, [07°31'N, 80°25'W], 30.VI–14.VII.1982, B. Gill [col.] (PMAE).

Distribution. Panama (Bocas del Toro, Chiriqui and Los Santos).

***Dissomphalus* sp. 14**

(Figs 15, 46, 77, 149–151)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 15). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one

angulate tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin ecarinate. Metasoma (Fig. 46). Tergal process with lateral, shallow, circular and small depression, with small, very low and dorsad tubercle placed on inner area of depression, pit small, with short and sparse tuft of setae. Posterior hypopygeal margin weakly concave (Fig. 77). Genitalia (Figs 149–151). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, entirely wide; cross section laminar; surface vertical; inner margin slightly sinuous with small projection in apical portion; outer margin slightly sinuous; apex long, simple, parallel; additional inner ramus long; basal stub short and narrow. Aedeagal dorsal body with pair of apical lobe; outer lobe long, subvertical and narrow, with apical margin rounded and ventrad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Tooth of median clypeal lobe rounded. Anterior margin of pronotal disc coarse. Depression of tergal process very shallow and pit of tubercle large.

Remarks. This species is similar to *D.* sp. 8 by having spine in ventral margin of apical lobes of aedeagal dorsal body and ventral ramus entirely wide with inner margin sinuous. However, this species has dorsal margin of paramere straight, apex of basal bar projected forward and apical margin of aedeagal ventral ramus smooth, whereas *D.* sp. 8 has dorsal margin of paramere sinuous, apex of basal bar not projected forward and apical margin of aedeagal ventral ramus wavy.

Material examined. Holotype, ♂, PANAMA, *Panama Pr[ovince]*: P[arque] Nac[ional] Altos de Campana, [08º43'15"W], 80º01'43"W], 10–14 agos 1999, Malaise, P. González, A. Santos [col.] (MIUP). Paratypes:1♂ same data as holotype; *Darién*: 4♂, Serrania de Pierre, Cana, 1380 m, [07°51'N, 77°37'W], 4–7.VI.1986, F[light] I[nterception] T[rap], [J.] Ashe & [R.] Brooks [col.] (2♂) (CNCI) and 1250m, 4–7.vi.1996, (2♂) (UFES).

Distribution. Panama (Panama and Darién).

coronatus species-group

Diagnosis. Male. Mandible tridentate, uppermost tooth usually inconspicuous. Median clypeal lobe trapezoidal. Metasoma with sublateral tergal process, wich have a pair of circular depressions with dense tuft of convergent setae directed backward, antero-lateral

margin of depression with setae, tubercle absent. Genitalia with inner apical surface of paramere generally with one setae distinctly longer than others. Aedeagal ventral ramus shorter than dorsal body with at least half part inclined and tending to be convergente mesad of genitalia. Aedeagal dorsal body wide with crown-like structure.

Remarks. It has fourteen species: *D. aculetaus* Alencar & Azevedo, *D. auritus* Alencar & Azevedo, *D. coronatus*, *D. culteratus* Alencar & Azevedo, *D. declinatus* Alencar & Azevedo, *D. decussatus* Alencar & Azevedo, *D. flexuosus* Alencar & Azevedo, *D. galeatus*, *D. hirtus*, *D. pronus*, *D. ramosus* Alencar & Azevedo, *D. sinatus* Alencar & Azevedo and *D. uber* Alencar & Azevedo.

Distribution. Dominica, Costa Rica, Panama, Venezuela, Trinidad & Tobago, Brazil (Paraná), Ecuador and Peru.

***Dissomphalus galeatus* Alencar & Azevedo, 2006**

Dissomphalus galeatus Alencar & Azevedo, 2006: 15–16 (♂, holotype from Costa Rica, CNCI, figs 20–21).

This species is known to Costa Rica and Brazil (Rondônia), and now it is recorded for the first time from Panama. In this series: median clypeal tooth shorter and angulate; median carina of clypeus complete apically. Depression of tergal process very shallow.

Material examined. PANAMA, *Chiriqui*: 3♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 4♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI).

***Dissomphalus coronatus*, Alencar & Azevedo, 2006**

Dissomphalus coronatus Alencar & Azevedo, 2006: 7–9 (♂, holotype from Panama, MIUP, figs 7–9).

This species is kown to Costa Rica, Panama, Venezuela, Dominica, Trinidad & Tobago, Ecuador (Alencar & Azevedo 2006). In this series the specimens are quite similar to those previously studied, without any variation that worth to mention.

Material examined. PANAMA, *Veraguas Pr[ovince]*: 13♂, P[arque] N[acional] Coiba, Isla Coibita {=Coiba}, [07º28'09"N, 81º45'24"W], 27–nov–4-dic.1998, (5♂), 0m, 30–nov. –4dic.1998 (5♂) and 120m (3♂) Malaise, R. Cambra, S. Bermudez [col.] (MIUP); *Darién Pr[ovince]*: 2♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP).

***Dissomphalus pronus* Alencar & Azevedo, 2006**

Dissomphalus pronus Alencar & Azevedo, 2006: 19–20 (♂, holotype from Costa Rica, PMAE, figs 24–27).

This species is known to Costa Rica (Alencar & Azevedo 2006) and now it is recorded for the first time from Panama. In this series: head, mesosoma and metasoma castaneous. Clypeal carina not developed in profile. Anterior margin of pronotal disc carinate with fovea before it. Apex of aedeagal ventral ramus folded.
Material examined. PANAMA, Colón: 1♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); Coche {=Coclé}: 1♂, El Cope {=El Copé}, [08°37'11"N, 80°35'03"W], 19.XI.1994, Windson & Edwards [col.] (CNCI); Panama: 1♂, Cerro Campana, 08°40'N, 79°50'W, 7–14.V.1973,(CNCI); 1♂, C[anal] Z[one], B[arro] Colorado Is[land], [09°09'N, [79°51'W], 1–14.VII.1994, F[light] I[nterception] T[rap], D. Banks [col.] (CNCI); Darién Pr[ovince]: 58♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, [77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP); 2♂, Cana, 7°45'N, 77°41'W, 3–7. VI.96, 550m, F[light] I[nterception] T[rap] J. Ashe, R. Brooks (UFES).

***Dissomphalus hirtus* Alencar & Azevedo, 2006**

Dissomphalus hirtus Alencar & Azevedo, 2006: 16–18 (♂, holotype from Venezuela, PMAE, figs 22–23).

This species is known to Venezuela and now it is recorded for the first time from Panama. In this series: clypeus with median lobe ill defined. Margin of pronotal disc carinate. Tergal process with deep depression.

Material examined. PANAMA, *Chiriqui Pr[ovince]*: 2♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30oci.5nov.1994, Tr[ampa] Malaise, A. Rodriguez [col.] (MIUP); 9♂, 5.6 km N Boquete, La Culebra trail, [08°49'23"N, 82°25'18"W], (8♂) and [08° 54,7'N, 82° 47,3 W], 17–18.vi.1996, 1875m (1♂), F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *[Los Santos]*: 1♂, Ojo de Agua, [07°31'N, 80°25'W], 30.VI–14.VII.1982, B. Gill [col.] (PMAE).

***curvifoveatus* species-group**

Diagnosis. Male. Metasoma with tergal process median, large, deep, triangular depression with base toward; pair of very large lateral pits, arched inward medially, covered by a lot of long setae inward.

Remarks. It has a single species, *D. curvifoveatus*.

Distribution. Belize, Costa Rica, Panama, Venezuela, Ecuador and Brazil (Amazonas, Pará and Rondônia).

***Dissomphalus curvifoveatus* Azevedo, 1999**
(Fig 152–157)

Dissomphalus curvifoveatus Azevedo, 1999a: 328–329, 368, 386–387 (♂, holotype from Brazil, Amazonas, INPA, figs: 40–42, 165); Azevedo, 2003: 60.

This species is kown to Belize, Costa Rica, Panama, Venezuela, Ecuador and Brazil (Acre, Amazônia, Pará, Rondônia and Paraná) (Azevedo 1999a). Here more specimens are added. In this series: median clypeal tooth angulate. Anterior margin of pronotal disc coarse. One specimen has depressions of tergal process with few setae and tergal process more distant from each other.

Material examined. PANAMA, *[Panama Province]*: 1♂, Nusagandi Sta[tion] n[ea]r Columbia INA Igar Trail, [08°58'N, 79°32'W], 12–13. V.1994, A. Windson [col.] (CNCI); *Darién Pr[ovince]*: 3♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho

Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, [Trampa] Malaise, R. Cambra, A. Santos [col.] (MIUP).

***gilvipes* species-group**

Diagnosis. Male. Clypeus broadly projected forward. Metasoma with lateral tergal process, tufts of setae with most lateral setae longer than others.

Remarks. It has five species: *D. gilvipes*, *D. krombeini*, *D. altyclypeatus* Azevedo, *D. bicerutus* Azevedo, and *D.* sp. 15.

Distribution. Ranging from Southern Florida to northern Argentina.

***Dissomphalus* sp. 15**

(Figs 16, 47, 78, 158–159)

Description. Male. Color: body castaneous. Head (Fig. 16). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 47). Tergal process, with lateral, shallow, linear and small depression, without tubercle, pit absent, with very short tuft of setae with one distincty long setae. Posterior hypopygeal margin weakly concave (Fig. 78). Genitalia (Figs 158–159). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin slightly sinuous; apex short, simple, angled outward; additional inner ramus absent; basal stub short and very narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, subvertical and wide with apical margin abruptly acute and dorsad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Head, mesosoma and metasoma light castaneous.

Remarks. This species is similar to *D. gilvipes* by having the dorsal margin of paramere expanded distally and the aedeagal ventral ramus abruptly narrowing apicad. However, this species has the apical lobes of aedeagal dorsal body short and wider and the apical margin of paramere crenulate, whereas *D. gilvipes* has the apical lobes of aedeagal dorsal body long and narrow and the apical margin of paramere smooth.

Material examined. Holotype, ♂, PANAMA, *Chiriqui*: 2 km W Cerro Punta, 1700 m, [08°51'N, 82°35'W], 19. V–8.VI.1977, Peck & Howden [col.] (CNCI). Paratypes: 12♂, same data of holotype; 1♂, STRI n[ea]r Futurna {=Fortuna}, 1260 m, 8°43'34"N, 82°14'25"W, 30.V.2000, Y[ellow] P[an] T[rap], B. & J. Gill [col.] (CNCI); 15♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30oct.5nov 1994, Tr[ampa] Malaise (13♂) and Tr[ampas] Amarillas (2♂) A . Rodriguez [col.] (MIUP); 2♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31. V.1997, Peck & Howden [col.] (CNCI); 3♂, Fortuna, Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16.5"N, 82°11'27.3"W], 8–11.abr.1999, Tr[ampas] Amar[illas], R. Cambra, A. Santos [col.] (MIUP); *Coclé Pr[ovince]*: 1♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panama Pr[ovince]*: 4♂, P[arque] Nac[ional] Altos de Campana, [08º43'15"W, 80º01'43"W], 10–14 ago 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 2♂, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, 79º43'W], 24 ago.–2 sep.1999 (MIUP); 1♂, Cerro Azul, Las Nubes, [09º10'N, 79º25'W], 9–15–oct.1999, R. Cambra, A. Santos [col.] (MIUP); 2♂, Cerro Campana, 08°40'N, 79°50'W, 7–14. V.1973, (CNCI).

Distribution. Panama (Chiriqui, Coclé and Panama).

***Dissomphalus gilvipes* Evans, 1979**

Dissomphalus gilvipes Evans, 1979: 278, 279, 283 (♂, holotype from Colombia, FSCA, fig. 7); Gordh & Móczár, 1990: 222, Azevedo, 1999b: 929, 931–932; 2003: 22; Redighieri & Azevedo, 2004: 330; 2006: 309, Colombo & Azevedo, 2016: 16–17.

This species is kown to Panama, Colombia, Ecuador, Peru, Brazil (Amazonas, Para, Rondônia, Mato Grosso, Pernambuco, Minas Gerais, Distrito Federal, São Paulo and Espírito Santo) (Colombo & Azevedo 2016). Here two specimens are added. In this series: outer lobe of apical lobes of aedeagal dorsal body entirely narrow, laminar in lateral view, convergent apically. Adeagal ventral ramus with apex slightly laterad.

Material examined. PANAMA, *Chiriqui*: 2#, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI).

***guttus* species-group**

Diagnosis. Male. Metasoma with lateral tergal process with pair of lateral drop-shaped pits, high rim, sharpened anteriorly and rounded posteriorly.

Remarks. It has two species: *D. guttus* and *D. latimerus* Azevedo.

Distribution. Costa Rica, Panama and Brazil.

***Dissomphalus guttus* Azevedo, 2003**
(Fig 160–161)

Dissomphalus guttus Azevedo, 2003: 48–50 (♂, holotype from Costa Rica, CNCI, figs 91–93).

This species is known to Costa Rica and Panama (Azevedo 2003) and here more specimens are added. In this series: median clypeal tooth angulate; median clypeal carina incomplete apically. Anterior margin of pronotal disc coarse.

Material examined. PANAMA, *Bocas del Toro*: 4♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); *Chiriqui*: 6♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); *Veraguas Pr[ovince]*: 1♂, Calovebora, Guazarito, 15–18 feb. 2000, Malaise, Col. S. Bermudez (MIUP); *Darién Pr[ovince]*: 7♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, [77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP); 1♂, Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], [07°51'26.3"N, 77°28'12.7"W], 5–28 feb 1993, R. Cambra [col.] (MIUP).

***microsticus* species-group**

Diagnosis. Male. Median clypeal lobe trapezoidal. Apex of aedeagal ventral ramus with latero-apical filament. Female. Mandible tetradentate with subupper tooth smaller than uppermost one. Median clypeal lobe rounded, mid part elevated and thick in frontal view.

Remarks. It has 15 species: *D. balteus*, Alencar & Azevedo, *D. divaricatus* Alencar & Azevedo, *D. forceps* Alencar & Azevedo, *D. incurvatus* Alencar & Azevedo, *D. osseus* Alencar & Azevedo, *D. paululus* Alencar & Azevedo, *D. perparvus* Alencar & Azevedo, *D. perventriosus* Alencar & Azevedo, *D. pilus*, *D. signatus* Alencar & Azevedo, *D. uncus* Alencar & Azevedo, *D. perturbatus* Alencar & Azevedo, *D. refertus*, Alencar & Azevedo, *D. microstictus* Evans and the *D.* sp. 16.

Distribution. Panama, Venezuela, Trinidad & Tobago, Brazil (Amazonas, Distrito Federal, São Paulo, Paraná and Espírito Santo), Ecuador, Peru, Bolivia and Argentina.

***Dissomphalus pilus* Alencar & Azevedo, 2008**

Dissomphalus pilus Alencar & Azevedo, 2008: 04, 09, 20–22 (♂, holotype from Trinidad & Tobago, CNCI, fig. 71–77).

This species is known to Trinidad and Tobago (Alencar & Azevedo 2008). Now it is recorded for the first time from Panama. In this series: apical lobes of aedeagal dorsal body very projected forward and apical margin truncate.

Material examined. PANAMA, Veraguas Pr[ovince]: 11♂, P[arque] N[acional] Coiba, Isla Coiba, [07º28'09"N, 81º45'24"W], 27–nov–4–dic.1998 (1♂), Cerro la Equis, 130m, 8–12 mar[ço] 1998 (1♂), 29 jul–4 ag 1998, 100m (1♂), 120m (1♂), Malaise, R. Cambra, A. Santos [col.]; 8-12 mar[ço] 1998, 0m (1♂), 90m (1♂), 30–nov–4–dic.1998, 100m (1♂), 120m (1♂), 0m (1♂), R. Cambra, S. Bermudez [col.]; Est[acion] Biol[ogica] Coiba, 26 nov–4 dic 1998 (1♂) 5-6 ag 1998 (1♂), R. Cambra, A. Santos [col.] (MIUP); *Panama Pr[ovince]*: 4♂, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N], [79º43'W], 24 ago.–2 sep.1999, Malaise, A. Santos, P. González [col.] (MIUP); 3♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago.–3 sep.1999, Malaise, A. Santos, P. González [col.] (MIUP); 1♂, Cerro Azul, Las Nubes, [09º10'N, 79º25'W], 9–15.oct.1999, R. Cambra, A. Santos [col.] (MIUP); *Coclé*: 1♂, Falda Cerro La Vieja, Chiguirí Arriba, [08º40'11"N, 82º12'05"W], 24 abril 1994, A. Rodriguez, R. Cambra [col.] (MIUP).

***Dissomphalus* sp. 16**
(Figs 17, 48, 79, 162–163)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 17). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest strongly concave. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 48). Tergal process absent. Posterior hypopygeal margin weakly concave (Fig. 79). Genitalia (Figs 162–163). Paramere with dorsal margin wide basally; apical margin rounded. Aedeagal ventral ramus higher than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin excavated; outer margin slightly sinuous; apex long, simple, parallel; additional inner ramus absent; basal stub short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, subhorizontal and narrow, with apical margin acute and mesad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Median clypeal lobe short. Mesosoma dark castaneous.

Remarks. This species is similar to *D.* sp. 29 by having the aedeagal dorsal body narrowing slightly apicad, apical lobes of aedeagal dorsal body in conical-shaped. However, this species has the tergal process absent, the paramere narrow, the apex of apical lobes of aedeagal dorsal body mesad and the aedeagal ventral ramus with filament inserted in median part, characteristic diagnosis for *microsticus* species-group, whereas *D.* sp. 29 has the tergal process with a tubercle, pit with thick setae the paramere wide, the apex of apical lobes of aedeagal dorsal body dorsad and the aedeagal ventral ramus without filament.

Material examined. Holotype, ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ap] Malaise, A. Santos[col.] (MIUP). Paratypes: 8♂, same data as holotype; *Chiriquí Pr[ovince]*: 1♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30 oct. 5 nov. 1994, Tr[ap] Malaise, A. Rodriguez [col.] (MIUP); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); 1♂, Fortuna: Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16.5"N, 82°11'27.3"W], 8–11.abr.1999, Malaise, R. Cambra, A. Santos [col.] (MIUP).

Distribution. Panama (Bocas del Toro and Chiriquí).

***punctatus* species-group**

Diagnosis. Male. Tergal process with circular depression, dense tufts of setae directed backward, tubercle absent.

Remarks. It has four species: *D. napo* Evans, *D. punctatus, D. bahiensis* Redighieri & Azevedo and *D. tupinikim* Colombo & Azevedo.

Distribution. Costa Rica, Panama, Ecuador, Peru, Brazil (Amazonas, Acre, Sergipe, Alagoas, Pernambuco, Paraíba, Mato Grosso, Bahia, Espírito Santo, Rio de Janeiro, São Paulo and Paraná) and Paraguay.

***Dissomphalus punctatus* (Kieffer, 1910)**

Thaumatepyris punctatus Kieffer, 1910a: 47 (♂, holotype from Peru, ZMHB).
Dissomphalus punctatus: Evans, 1964: 47 (♂, new combination, figs 24, 26, 33); Azevedo, 2003: 28–30; Redighieri & Azevedo, 2006: 310–311; Azevedo, 1999b: 492.
Glenobethylus montanus Kieffer, 1910a: 50 (♂, holotype, Pérou, Départ. de Cuzco, Plateau de Cosnipata, altitude de 1000 mètres, en janvier (Garlepp); ZMBH). Synonymized by Azevedo, 1999b: 492.
Dissomphalus montanus: Evans, 1964: 46, 48 (♂, new combination).
Dissomphalus napo: Redighieri & Azevedo, 2004: 330, part.

This species is known to Costa Rica, Panama, Ecuador, Peru and Brazil (Amazonas, Acre, Pernambuco, Alagoas, Sergipe, Bahia, Espírito Santo, Rio de Janeiro, São Paulo and Paraná). Now some specimens are added. In this series: median clypeal tooth angulate; median clypeal carina straight and complete. Anterior margin of pronotal disc coarse. Tergal process with very shallow depression. Paramere short, wider, apical margin straight. Basivolsella with a rounded expansion.

Material examined. PANAMA, *Chiriqui*: 1♂, Santa Clara, Finca Hartmann, Ojo de Agua, [08°51'38"N, 82°44'44"W], 8–9.XI.2001, M[alaise] T[rap], N. Schiff [col.] (UCDC); 1♂ Res[erva Florestal] La Fortuna, Viveno, [08°44’39”N, 82°14’15”W], 14–18.VI.1994, A. R. Gillogly [col.] (CNCI); *Darién Pr[ovince]*: 27♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (25♂) and 1000 m, 21 mar–4ab 2000, Cambra, Santos, Bermudez [col.] (2♂) (MIUP); 4♂, Serrania de Pierre, Cana, 1380 m, [07°51'N,

77°37'W], 4–7.VI.1986 F[light] I[nterception] T[rap], [J.] Ashe & [R.] Brooks [col.] (2♂) (CNCI) and 1450m, 4–7.vi. 1995 (2♂) (UFES).

***rasissimus* species-group**

Diagnosis. Male. Metasoma with median tergal proces, with very shallow, very large, depression occupying two median thirds of tergite, reaching broadly posterior margin of tergite I; half-moon-shaped. Paramer deeply divided medially forming two distinct lobes.

Remarks. It has two species: *D. rasissimus* Azevedo and *D. bilobatus* Azevedo.

Distribution. Mexico (Chiapas and Oaxaca), Belize and Costa Rica.

***Dissomphalus bilobatus* Azevedo, 1999**
(Figs 164–167)

Dissomphalus bilobatus Azevedo, 1999a: 04, 09, 20–22 (♂, holotype from Trinidad & Tobago, CNCI, fig. 71–77).

This species is known to Costa Rica (Azevedo 1999). Now it is recorded for the first time from Panama. In this series: median clypeal tooth angulate; median clypeal carina complete; vertex crest straight. Anterior margin of pronotal disc coarse. Mesosoma light castaneous. Pit of tergal process with very short tuft of setae.

Material examined. PANAMA, *Chiriquí*: 1♂, 5.6 km N Boquete, La Culebra trail, [08°49'23"N, 82°25'18"W], F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); 1♂, [Santa Clara], Harman's Finca, [08°51'38"N, 82°44'44"W], 3.VII.1981, B. Gill [col.] (PMAE); *Veraguas Pr[ovince]*: 2♂, Santa Fé, Altos De Piedra, [08°31'5.5"N, 81°06'30.4"W], 13–17 nov. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Colón*: 3♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Coclé Pr[ovince]*: 2♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *[Kuna Yala]*: 1♂, Nusagandi Sta[tion] n[ea]r Columbia INA Igar Trail, [08°58'N,

79°32'W], 12–13.V.1994, A. Windson [col.] (CNCI); *Panamá Pr[ovince]*: 1♂, Parq[ue] Nac[ional] Soberanía, Camino, Plantación, [09º09'N, 79º43'W], 23–29 feb. 2000, P. González, A. Santos [col.] (MIUP); *Comarca Kuna Yala*: 6♂, Ustupu, Rio Abudi, [09º07'57"N, 77º55'36"W], 6–12 dic. 1999, P. González [col.] (MIUP); *Darién Pr[ovince]*: 57♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (51♂), 1000, 21 mar–4ab 2000 (4♂) and 900 m (2♂) Cambra, Santos, Bermudez [col.] (MIUP); 3♂, Cana, 1380 m, [07°51'N, 77°37'W], 4–7.VI.1986 (2♂), (CNCI) and 550m, 7º 45'N 77° 41'W, 3–7.vi.96, (1♂), (UFES) F[light] I[nterception] T[rap], [J.] Ashe & [R.] Brooks [col.].

***rufipalpis* species-group**

Diagnosis. Male. Metasoma with lateral tergal process, with pair of elliptical, inclined, elongated depression with linear and oblique tufts of setae.

Remarks. It has five species: *D. ellipticus* Evans, *D. rufipalpis* Kieffer, *D. inclinatus* Redighieri & Azevedo, *D. infissus* Evans and *D. guarani* Colombo & Azevedo.

Distribution. Ranging from the southern Florida to northern Argentina.

***Dissomphalus infissus* Evans, 1969**

Dissomphalus infissus Evans, 1969: 14, 19, 22 (♂, holotype from Argentina, FIML, figs 14, 20, 28); Gordh & Moczar, 1990: 226; Azevedo, 1999b: 929, 933–934; 2003: 27; Redighieri & Azevedo, 2006: 311, Colombo & Azevedo, 2016: 28–29.

This species is known to Brazil (Paraíba, Pernambuco, Espírito Santo, São Paulo, Paraná and Santa Catarina) and Argentina (Colombo & Azevedo 2016). Now it is recorded for the first time from Panama. In this series: head dark castaneous; frons strongly coriaceous; median clypeal tooth angulate. Anterior margin of pronotal disc coarse. Depression of tergal process very large. Apex of paramere strongly curved inward.

Material examined. PANAMA, *Colón:*1♂ 14 km N J[un]ct[ion] Escobar r[oad] on Piña r[oa]d, ± 20 m, 09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Darién Pr[ovince]*: 1♂, P[arque] N[acional] Darién,

Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP).

***Dissomphalus rufipalpis* Kieffer, 1910**
(Figs 168–170)

Dissomphalus rufipalpis Kieffer, 1910b: 44–45, 1914b: 496, 500, Evans, 1962: 69, 74–75, 1964: 46, Gordh & Moczar, 1990: 225, Azevedo, 1999c: 944–945; Azevedo, 2003: 28, Redighieri & Azevedo, 2006: 311.
Dissomphalus obliquos Evans, 1979: 277, 278, 279–280; Gordh & Moczar, 1990: 224, Azevedo, 1999c: 9944 (designation of synonymy).

This species is known to Mexico (Vera Cruz, Chiapas), Belize, Guatemala, Honduras, Costa Rica, Panama, Colombia and Ecuador (Azevedo 1999b). Here more specimens are added. In this series the specimens are quite similar to those previously studied, without any variation that worth to mention.

Material examined. PANAMA, *Chiriqui*: 3♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); *Veraguas Pr[ovince]*: 1♂, P[arque] N[acional] Coiba, Isla Coita {=Coiba}, [07º28'09"N, 81º45'24"W], 27nov–4dic 1998, Malaise, R. Cambra, S. Ber[mudez col.] (MIUP); 1♂, Santa Fé D[is]tr[ict], [08°31'N, 81°06'W], 24–26 marzo 1999, B. Amarillas, col: A. Santos, L. D. (MIUP); *Comarca Kuna Yala*: 1♂, Ustupu, Rio Abudi, [09º07'57"N, 77º55'36"W], 6–12 dic. 1999, Malaise, P. González [col.] (MIUP); *Darién Pr[ovince]*: 12♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 450m, [08°00'N, 77°45'W], 24–26 marzo 2001, Malaise, col. A. Santos (2♂), 230m, 21 mar–4ab 2000, Cambra, Santos, Bermudez [col.] (1♂), 80m, 16 nov 00–17 ene 2001 R. Cambra, A. Santos [col.] (9♂) (MIUP);

***setosus* species-group**

Diagnosis. Male. Tergal process composed of tubercle with wide fovea and thick setae on the border of each depression.

Remarks. It has 13 species: *D. distans* Redighieri & Azevedo, *D. divisus* Redighieri & Azevedo, *D. filiformis* Redighieri & Azevedo, *D. inflexus* Redighieri & Azevedo, *D. crassus* Redighieri & Azevedo, *D. firmus* Redighieri & Azevedo, *D. w-aedeagus* Colombo & Azevedo, *D.* sp. 17, *D.* sp. 18, *D.* sp. 19, *D.* sp. 20, *D.* sp. 21. Here we transfer *D. politus* to this species-group for having tubercle with thick setae on small pit and thick setae on the outer margin of depression.

Distribution. Ranging from Mexico to South of Brazil, including some Caribbean islands.

***Dissomphalus* sp. 17**

(Figs 18, 49, 80, 171–172)

Description. Male. Color: body castaneous. Head (Fig. 18). Mandible with two distal teeth. Median clypeal lobe subtrapezoidal, with one angulate tooth; median clypeal carina low in profile; incomplete apically; straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 49). Tergal process with lateral, very shallow, subcircular and small depression, with small, high and laterad tubercle placed on inner area of depression, pit small, with short and sparse tuft of setae. Posterior hypopygeal margin weakly concave (Fig. 80). Genitalia (Figs 171–172). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus higher than dorsal body, evenly narrow; cross section laminar; surface subhorizontal; inner margin sinuous; outer margin slightly sinuous; apex short, simple, translucent, slightly curved inward; additional inner ramus absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, horizontal and wide, with apical margin rounded and laterad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Metasoma light castaneous, tubercle low and with dense tuft of setae, ventral projection of apical lobe of aedeagal dorsal body longer, narrower or without its.

Remarks. This species is easily recognized by having the apical lobes of aedeagal dorsal body with a small laterad expansion bear ear-shaped. This species is similar to *D.* sp. 20 by having paramere very excavated apically and the aedeagal dorsal body with three narrow, long filaments which connect the apical lobes of aedeagal dorsal body to basal portion of aedeagal dorsal body. However, this species has the apical lobes of aedeagal dorsal body with a small laterad projection, the aedeagal ventral ramus with

apex translucent and smooth, whereas *D.* sp. 20 has the apical lobes of aedeagal dorsal body with apex abruptly acute and the aedeagal ventral ramus with apex not translucent and toothed.

Material examined. Holotype, ♂, PANAMA, *Panama Pr[ovince]*: P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, [79º43'W], 24 ago.–2 sep.1999, Malaise, A. Santos, P. González [col.] (MIUP). Paratypes: *Bocas del Toro*: 2♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm,[09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); *Chiriqui*: 1♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 2–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); *Coche {=Coclé}*: 1♂, El Cope {=El Copé}, [08°37'11"N, 80°35'03"W], 19.XI.1994, Windson & Edwards [col.] (CNCI). 2♂, same data as holotype; 2♂, same province of holotype, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago.–3 sep.1999 (MIUP);

Distribution. Panama (Bocas del Toro, Chiriqui, Coclé and Panama).

***Dissomphalus* sp. 18**

(Figs 19, 50, 81, 173–174)

Description. Male. Color: head castaneous; mesosoma and metasoma light castaneous. Head (Fig. 19). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one rounded very short tooth; median clypeal carina high in profile, incomplete apically, convex in profile. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 50). Tergal process with lateral, shallow, circular and large depression, with small, low and dorsad tubercle placed on center of depression, pit small, with short tuft of setae. Posterior hypopygeal margin strongly concave (Fig. 81). Genitalia (Figs 173–174). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; ramous bifid, surface horizontal; inner margin sinuous; outer margin sinuous; apex short, simple, parallel; additional inner ramus absent; basal stub short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe very short, horizontal and narrow, with apical margin abruptly acute and laterad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is the most different in *setosus* species-group by having the aedeagal dorsal body elongated and very short apical lobes of aedeagal dorsal body. These characters are easy to be recognized. This species is similar to *D. filus*, by having the aedeagal dorsal body elongated with small apical lobes of aedeagal dorsal body. However, this species has paramere the same size as basiparamere, apical lobes of aedeagal dorsal body very short and wide and aedeagal ventral ramus bifid whereas *D. filus* has the paramere longer than basiparamere, apical lobes of aedeagal dorsal body longer and narrow and aedeagal ventral ramus not bifid. The base of aedeagal ventral ramus has small lamelar projections that are difficult to see in magnifying glass, but easily to see in microscope. In this species-group just this species and *D. w-aedeagus* has the ventral ramus bifid.

Material examined. Holotype, ♂, PANAMA, *Veraguas Pr[ovince]*: P[arque] N[acional] Coiba, Isla Coiba, Est[acion] Biologica Coiba, [07º28'09"N, 81º45'24"W], 5–6 ag 1998, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: 3♂, same data as holotype; *Darién*: 1♂, Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], P[arque] Nac[ional] Darién, [07°51'26.3"N, 77°28'12.7"W], 5–28 feb 1993, Malaise, R. Cambra [col.] (MIUP).

Distribution. Panama (Veraguas and Darién).

***Dissomphalus* sp. 19**

(Figs 20, 51, 82, 175–176)

Description. Male. Color: body castaneous. Head (Fig. 20). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina very high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures large. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin carinate. Metasoma (Fig. 51). Tergal process with lateral, very shallow, subcircular and small depression, with very small, low and posterad tubercle placed on center of depression, pit very small, with short and dense tuft of setae. Posterior hypopygeal margin strongly concave (Fig. 82). Genitalia (Figs 175–176). Paramere with dorsal margin entirely wide; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin sinuous; apex long with sinuous, slender ventral projection, curved outward; additional inner ramus absent; basal stub long and narrow.

Adeagal dorsal body with two pairs of apical lobes; outer lobe long, subhorizontal and narrow, with apical margin rounded and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Head, mesosoma and metasoma light castaneous, anterior margin of pronotal disc coarse, tergal process without depression.

Remarks. This species is easily recognized by having the aedeagal ventral ramus with slender ventral projection and the carina of median clypeal tooth very high in profile and the ventral margin of paramere is thick with thick setae. This species is similar to *D. magnus* by having the dorsal margin of paramere almost straight with distinct thick setae apical and longer than basiparamere. However, this species has the aedeagal ventral ramus abruptly narrow apicad with one ventral slender projection and apical lobes of aedeagal dorsal body subhorizontal whereas *D. magnus* has the aedeagal ventral ramus divided in two tubular, sinuous, projections and apical lobes of aedeagal dorsal body horizontal.

Material examined. Holotype, ♂, PANAMA, [*Chiriquí*]: Fortuna, Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16"N, 82°11'27"W], 8–11.abr.1999, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: 5♂, same data as holotype; 2♂, same of holotype except 9–11.abr.1999, Tr[ampas] Amar[illas] (MIUP); *Bocas del Toro*: 1♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17-24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP).

Distribution. Panama (Bocas del Toro and Chiriquí).

***Dissomphalus* sp. 20**

(Figs 21, 52, 83, 177–178)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 21). Mandible with two distal teeth. Median clypeal lobe subtrapezoidal, with one angulate tooth; median clypeal carina low in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc coriaceous; anterior margin ecarinate. Metasoma (Fig. 52). Tergal process with lateral, shallow, subcircular and small depression, with small, high and posterad tubercle placed on center of depression, pit small, with short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 83). Genitalia (Figs 175–176). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral

ramus as long as dorsal body, wide, progressively narrowing apicad; cross section laminar; surface subhorizontal; inner margin straight; outer margin slightly sinuous; apex long, simple, slightly curved inward; additional inner ramus absent; basal stub short and very narrow. Aedeagal dorsal body with pair of apical lobe; outer lobe short, horizontal and very narrow, with apical margin abruptly acute and ventrad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Depression of tergal process very shallow, tubercle low. Apical lobe of aedeagal dorsal body longer and narrower.

Remarks. This species is similar to *D.* sp. 17 by having paramere excavated apically and expanded basally and the aedeagal dorsal body with three narrow and long filaments which connect the apical lobes of aedeagal dorsal body to basal portion of aedeagal dorsal body. However, this species has the apex of apical lobes of aedeagal dorsal body abruptly acute and the aedeagal ventral ramus with apex toothed, whereas *D.* sp. 17 has the apex of apical lobes of aedeagal dorsal body with a small laterad projection and the aedeagal ventral ramus with apex translucent and smooth.

Material examined. Holotype, ♂, PANAMA, *Darién Pr[rovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: *Bocas del Toro*: 3♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos [col.] (MIUP); *Coclé Pr[ovince]*: 1♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panama Pr[ovince]*: 1♂, P[arque] Nac[ional] Altos de Campana, [08º43'15"W, 80º01'43"W], 10–14 ago 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 4♂ same data as holotype; 1♂, same of holotype except 1000 m, 21 mar–4ab 2000 (MIUP).

Distribution. Panama (Bocas del Toro, Coclé, Panama and Darién).

***Dissomphalus* sp. 21**

(Figs 22, 53, 84, 179–180)

Description. Male. Color: body castaneous. Head (Fig. 22). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly

coriaceous and punctures small. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin coarse. Metasoma (Fig. 53). Tergal process with lateral, shallow, circular and small depression, with small, low and posterad tubercle placed on center of depression, pit large, with short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 84). Genitalia (Figs 179–180). Paramere with dorsal margin entirely wide; apical margin rounded. Aedeagal ventral ramus as long as dorsal body, evenly narrow; cross section laminar; surface horizontal; inner margin sinuous; outer margin slightly sinuous; apex short, simple, curved outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, subhorizontal and narrow, with apical margin abruptly acute and anterad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Tergal process with pit of tubercle with few setae.

Remarks. This species is easily recognized by having paramere wide basally and the triangular shape of the outer lobe of aedeagal dorsal body which is very projected forward. This species is not similar to any of the *setosus* species-group.

Material examined. Holotype, ♂, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: *Bocas del Toro,Wekso*: 1♂, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampas] Amarillas, A. Santos[col.] (MIUP); *Chiriqui*: 1♂, Finca La Suiza near Hornitos,[08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 1♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); *Veraguas Pr[ovince]*: 12♂, P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 0m, (2♂), 90m (2♂), [07º28'09"N, 81º45'24"W], 8–12 mar[ço] 1998, Malaise, R. Cambra, A. Santos [col.], 120m, 29jul–4 ag 1998 (6♂), 100 m, 30–nov–4–dic.1998, R. Cambra, S. Bermudez [col.] (1♂) and Playa Blanca-Cativales, 31 jul–6 ago 1998, R. Cambra, A. Santos [col.] (1♂) (MIUP); *Colón Pr[ovince]*: 1♂ P[a]r[que] Nac[ional] Portobelo, San Antonio, 16–29 feb. 2000, Tr[ampa] Malaise, P. González, A. Santos [col.] (MIUP); 1♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Comarca Kuna Yala*: 6♂, Ustupu, Rio Abudi, [09º07'57"N, 77º55'36"W], 6–12 dic. 1999, Malaise, P. González [col.] (MIUP); *Panama Pr[ovince]*: 10♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago.–3 sep.1999, Tr[ampa] Malaise, A. Santos, P. González [col.]

(MIUP); 1♂, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, 79º43'W], 24 ago.–2 sep.1999 Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 2♂, Chilibre, Parque Nacional Chagres, Campo Chagres, [09º25'54"N, 79º30'54"W], 24–28.enero.2000 Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 3♂, C[anal] Z[one], B[arro] Colorado Is[land], [09°09'N, 79°51'W], 15–31.VII.1994, (2♂) and 1–14.VII.1994 (1♂), F[light] I[nterception] T[rap], D. Banks [col.] (CNCI); 28♂, same data as holotype; 9♂, same province of holotype Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables] [07°51'26.3"N, 77°28'12.7"W], 5–28 feb 1993, Malaise, R. Cambra [col.] (MIUP); 6♂, Cana, Serrania de Pirre, 1250m, 4–7.vi.1996, J. Ashe, R. Brooks. (UFES); 6♂, Estac[ion] Cruce de Mono, [07°51'26.3"N, 77°28'12.7"W], 6 feb–4 mar 1993, Tr[ampa] malaise, R. Cambra, J. Coronado [col.] (MIUP); 2♂, Cruce de Mono: Estac. I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], 6.II–4.III.1993(MIUP).

Distribution. Panama (Bocas del Toro, Chiriqui, Veraguas, Cólon, Panama, Comarca Kuna Yala and Darién).

***Dissomphalus politus* Ashmead, 1894**

Dissomphalus politus Ashmead, 1894: 193, 195. Dalla Torre 1898: 558, Kieffer 1908: 36, 1914b: 496, 501, Evans, 1964: 46, Gordh & Moczar 1990: 225, Azevedo 1999b: 54, 1999b: 927; Azevedo, 2003: 20, 71.

This species is known to Saint Vicent (Azevedo 2003). Now it is recorded for the first time from Panama. In this series: head, mesosoma and metasoma light castaneous. median clypeal carina inconspicuous; median clypeal tooth angulate. Anterior margin of pronotal disc slightly coarse. Tergal process with tubercle, thick setae on pit and in outer margin of depression. Aedeagal ventral ramus shorter than aedeagal dorsal body.

Material examined. PANAMA, *Veraguas*: 10♂, P[arque] N[acional] Coiba, Isla Coibita {=Coiba}, [07º28'09"N, 81º45'24"W], 6–11 mar 1998 (1♂), 29 jul. 4 ag 1998, (3♂), Cerro la Equis, 120 m (1♂), Playa Blanca-Cativales 31 jul–6 ago 1998 (3♂), Est[acion] Biologica Coiba, 5–6 ag 1998 (2♂), Malaise, R. Cambra, A. Santos [col.] (MIUP); *Darién*: 1♂, Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], P[arque] Nac[ional] Darién, [07°51'26.3"N, [77°28'12.7"W], 5–28 feb

1993, Malaise, R. Cambra [col.] (MIUP); 1♂, Cana 7º45' N, 77º 41 W, 3–7.vi.96, 550m, J. Ashe, R. Brooks. (UFES).

***tuberculatus* species-group**

Diagnosis. Male. Clypeus trapezoidal. Metasoma with lateral tergal process, with pair of tubercles slightly directed each other, placed in pair of shallow depression or in horizontal surface.

Remarks. It has two species: *D. plaumanni* and *D. tuberculatus* Ashmead.

Distribution. Saint Vincent, Costa Rica, Panama, Ecuador, Peru and Brazil (Pará, Espírito Santo, São Paulo and Paraná).

***Dissomphalus plaumanni* Evans, 1964**

Dissomphalus plaumanni Evans, 1964: 47, 52, 58–59 (♂, holotype from Santa Catarina, BMNH, figs 19, 27, 32, 35); Azevedo, 1999b: 939–941; 2003: 26–27; Redighieri & Azevedo, 2004: 330; 2006: 312; Colombo & Azevedo, 2016: 33–34.

This is one of the most widespread species through the Neotropical region (Azevedo 1999b). Here more specimens are added. In this series: median clypeal tooth angulate; median carina clypeal straight and complete; vertex crest straight. Tergal process with very small and very shallow depression; pit of tubercle with few setae.

Material examined. PANAMA, *Chiriqui*: 17♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 2–6.VI.2000 (6♂), 25–6.VI.2000 (11♂), F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 2♂ Res[erva Florestal] La Fortuna, Viveno, [08°44’39”N, 82°14’15”W], 14–18.VI.1994, A. R. Gillogly [col.] (CNCI); 1♂ 15 km NW Hato del Volcano, 1200 m[08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); *Veraguas Pr[ovince]*: 6♂, P[arque] N[acional] Coiba, Isla Coibita {=Coiba}, [07º28'09''N, 81º45'24"W], 27–nov–4–dic.1998, (2♂), Cerro La Equis, 120 m, 30–nov.–4dic.1998 (2♂), 100m (1♂), 90m (1♂), Malaise, R. Cambra, S. Bermudez [col.] (MIUP); *Colón*: 2♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N'], [79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Old Gamboa*: 1♂, C[anal] Z[one], [009°25'N, 80°00'W], 14.XI.1994, F[light] I[nterception] T[rap], P. Windson [col.] (CNCI); *Darién Pr[ovince]*:

30♂ P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 87°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (29♂), 21 mar–4ab 2000, Tr[ampa] Amarilla, Cambra, Santos, Bermudez [col.] (1♂) (MIUP).

Distribution: Mexico, Belize, Guatemala, Costa Rica, Panama, Trinidad & Tobago, Ecuador, Peru, Brazil, (Amazonas, Pará, Maranhão, Acre, Rondônia, Rio de Janeiro, São Paulo, Paraná and Santa Catarina) and Bolivia.

***ulceratus* species-group**

Diagnosis. Male. Tergal process median with depression, pair of tufts of setae. Basal portion of dorsal margin of paramere much developed. Digitus wide medially. Cuspis elongated. Aedeagal ventral ramus with inner margin sinuous basally, wide, narrowing apically.

Remarks. It has six species: *D. ulceratus* Evans, *D. dentiformis* Azevedo, *D. concavatus* Azevedo, *D. rectilineus* Azevedo, *D. congo* Colombo & Azevedo and *D.* sp. 22.

Distribution. Panama, Brazil (Distrito Federal, Espírito Santo, Rio de Janeiro, São Paulo and Paraná) and Argentina.

***Dissomphalus* sp. 22**

(Figs 23, 54, 85, 181–182)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 23). Mandible with three distal teeth. Median clypeal lobe ill-defined, with one angulate very short tooth; median clypeal carina low in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin carinate. Metasoma (Fig. 54). Tergal process with median, shallow, subcircular and large depression, without tubercle, with pit large, short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 85). Genitalia (Figs 181–182). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface vertical; inner margin straight; outer margin sinuous; apex long, simple, angled outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe very

long, horizontal and wide, with apical margin angled and laterad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Head castaneous and mesosoma light castaneous. Median clypeal tooth inconspicuous.

Remarks. This species is similar to *D.* sp. 24 by having the apical lobes of aedeagal dorsal body very long and wide and the apical half of aedeagal ventral ramus narrow. However, this species has the dorsal margin of paramere rounded with apex crenulate and the apex of aedeagal ventral ramus angled outward, whereas *D.* sp. 24 has the paramere with dorsal margin no so rounded with apex smooth and the apex of aedeagal ventral ramus not angled outward.

Material examined. Holotype, ♂, PANAMA, *Bocas del Toro*: Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP). Paratypes: 8 ♂ same data as holotype (MIUP).

Distribution. Panama (Bocas del Toro).

***unitus* species-group**

Diagnosis. Male. Tergal process median, rounded depression nearly totally covered by pair of joined tufts of long setae directed backward.

Remarks. It has two species: *D. unitus* and *D. delgatus* Azevedo.

Distribution. Mexico (Chiapas, Vera Cruz), Belize, Guatemala, Costa Rica, Panama and Venezuela.

***Dissomphalus unitus* Azevedo, 1999**
(Fig 183–187)

Dissomphalus unitus Azevedo, 1999a: 350–351, 380–381, 390; (♂, holotype from Costa Rica, CNCI, figs 112–116, 193–194); Azevedo, 2003: 62.

This species is known to Mexico (Chiapas, Vera Cruz), Belize, Guatemala, Costa Rica and Panama (Azevedo 1999a). Now it is recorded for the first time from Panama. In this series: median clypeal tooth angulate. Metasoma light castaneous. Aedeagal ventral

ramus as longer as aedeagus. Volsella with rounded expansion medially, some specimens without it.

Material examined. PANAMA, *Chiriqui*: 4♂, 15 km NW Hato del Volcano, 1200 m, [08°46'N, 82°38'W], 24–31.V.1997, Peck & Howden [col.] (CNCI); 6♂, Res[erva Florestal] La Fortuna, Viveno, [08°41'27"N, 82°14'12"W], 14–18.VI.1994, A. R. Gillogly [col.] (CNCI); 1♂, water shed, hydro trail, 1100 m, [08°44'21"N, 82°14'36"W], 24.I.1994–27.I.1994, D. M. Windson [col.] (CNCI); 1♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 2–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 1♂, Santa Clara, Finca Hartman, Ojo de Agua, [08°51'38"N, 82°44'44"W], 8–9.XI.2001, M[alaise] T[rap], N. Schiff [col.] (UCDC); *Veraguas*: 1♂, Pr[ovince] Santa Fé], Santa Fé, Altos De Piedra, [08°31'5"N, 81°06'30"W], 13–17 nov. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Coclé Pr[ovince]*: 2♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570 – 670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panamá Pr[ovince]*: 1♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago. –3 sep.1999 (MIUP); *Darién Pr[ovince]*: 32♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N], [77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (26♂), 1000 m, 21 mar–4ab 2000, Cambra, Santos, Bermudez [col.] (5♂) and 580 m (1♂) (MIUP); 1♂, Nusagandi Sta[tion] n[ea]r Columbia INA Igar Trail, [08°58'N, 79°32'W], 12–13.V.1994, A. Windson [col.] (CNCI).

***vallensis* species-group**

Diagnosis. Male. Clypeus with only median tooth. Tergal process median, depression transverse and elliptical. Pair of lateral tubercles, directed each other.

Remarks. It has 11 species: *D. bisserratus* Azevedo, *D. polidentatus* Azevedo, *D. planus* Azevedo, *D. extrarramis* Azevedo, *D. triangularis* Azevedo, *D. dilatatus*, *D. strictus* Azevedo, *D. bifurcatus* Azevedo, *D. digitatus* Azevedo, *D. vallensis* and *D. rosangelae* Colombo & Azevedo.

Distribution. Ranging from Mexico to south of Brazil, including some Caribbean islands.

***Dissomphalus vallensis* Evans, 1979**
(Figs 188–190)

Dissomphlaus vallensis Evans, 1979: 277, 281 (♂ holotype from USNM); Gordh & Moczar, 1990: 226; Azevedo, 1999a: 327–328, 162–163.

This species is known to Colombia (Azevedo 1999a). Now it is recorded for the first time from Panama. In this series: median clypeal tooth angulate; median clypeal carina conspicuous and complete; vertex crest straight. Anterior margin of pronotal disc coarse. Aedeagal ventral ramus shorter than aedeagal dorsal body; median region of aedeagal dorsal body wide, apical portion elongated and narrow; outer margin sinuous. Genital ring bifurcated distally in ventral view.

Material examined. PANAMA, *Coche {=Coclé}*: 1♂, El Cope {=El Copé}, 730 m, [08°37'11"N, 80°35'03"W], 19–20.XI.1994, F[light] I[nterception] T[rap], D. Windson Edwards [col.] (CNCI); *Darién*: 5♂, Cana, Serraria {=Serrania} de Pirre 1450m, 4–7.vi. 1995, J. Ashe, R. Brooks F[light] I[nterception] T[rap] (UFES).

Species incertae sedis

***Dissomphalus rettenmeyeri* Evans, 1964**
(Figs 191–192)

Dissomphalus rettenmeyeri Evans, 1964: 45, 52, 53–55; (♂, holotype from Panama, USNM, figs 28–30); Gordh & Moczar, 1990: 25; Azevedo, 2003: 70–71.

This species is known only from the holotype and allotype from Panama. In this study, it was the most abundant species with 274 specimens and it has the largest distribution. All the specimens when compared with description by Evans (1964) and redescription by Azevedo (2003) have no variations worth to mention.

Material examined. PANAMA, *Bocas del Toro*: 61♂, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); *Chiriqui*: 24♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, F[light] I[nterception] T[rap], H. & A. Howden [col.] (CNCI); 8♂, 2–6.VI.2000 (CNCI) and (UFES) (2♂); 1♂, La Fortuna Dam, 1200m wet forest 14–VI–16–VII–1982, B. Gill. (CNCI); *Veraguas*: 2♂, Pr[ovince, Santa Fé

District], Santa Fé, Altos de Piedra, 770 m, [08°31'5.5"N, 81°06'30.4"W], 22–26 marzo 1999, Malaise, Col. A. Santos, L. D. (1♂) and 13–17 nov. 1999, A. Santos, P. González [col.] (1♂) (MIUP); *Colón Pr[ovince]*: 3♂, P[a]r[que] Nac[ional] Portobelo, San Antonio, 16–29 feb. 2000, Tr[ampa] Malaise, P. González, A. Santos [col.] (MIUP); 3♂, S[an]ta Rita [Arriba], Macizo, Parador Sierra Llorona, [09°19'57"N, 79°45'1"W], 22 dic. 1997, D. Quintero [col.] (MIUP); 3♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Coclé Pr[ovince]*: 3♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m. [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panama Pr[ovince]*: 6♂, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, 79º43'W], 24 ago.–2 sep.1999, Malaise, P. González, A. Santos [col.] (MIUP); 2♂, P[arque] Nac[ional] Altos de Campana, [08º43'15"W, 80º01'43"W], 10–14 ago 1999 Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 1♂, Chilibre, Parque Nacional Chagres, Campo Chagres, [09º25'54"N, 79º30'54"W], 24–28.enero.2000 Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 1♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago.–3 sep.1999 Tr [ampa] Malaise, A. Santos, P. González [col] (MIUP); 1♂, Cerro Campana, 08°40'N, 79°50'W, 7–14.V.1973 (CNCI); 1♂, Barro Colorado I[sland], [09°09'N, 79°51'W], 23.III.1981, R. B. & L. S. Kimsey [col.] (UCDC); 1♂, Old Gamboa, C[anal] Z[one], [09°25'N, 80°00'W], 14.XI.1994, F[light] I[nterception] T[rap], P. Windson [col.] (CNCI); 5♂, C[anal] Z[one], B[arro] Colorado Is[land], [09°09'N, 79°51'W], 15–31.VII.1994 (1♂), 14.VII.1994 (3♂) D. Banks [col.] and 3–13–VI–1983, B Gill (1♂) (CNCI); *Darién Pr[ovince]*: 134♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise (130♂), 18–24 ene 2001 Tr[ampa] Amarilla (1♂) R. Cambra, A. Santos [col.], 450m, 24–26 marzo 2001, Malaise, col. A. Santos (2♂) and 560m, 21 mar–4ab 2000, Cambra, Santos, Bermudez [col.] (1♂) (MIUP); 5♂, Cana, 1380 m, [07°51'N, 77°37'W], 4–7.VI.1986, F[light] I[nterception] T[rap], [J.] Ashe & [R.] Brooks [col.] (CNCI); 7♂, Serraria {Serrania} de Pirre, 1450m, 4–7.vi.1995, J. Ashe, R. Brooks F[light] I[nterception] T[rap] (6♂) (UFES) and 1456 m, 7–9.VI.1996 (1♂) (CNCI).

***Dissomphalus personatus* Redighieri & Azevedo, 2006**

(Figs 193–197)

Dissomphalus personatus Redighieri & Azevedo, 2006: 327 (♂ holotype from Paraná MZSP, figs 43–44.

This species is known to Brazil (São Paulo and Paraná) (Redighieri & Azevedo 2016). Now it is recorded for the first time from Panama. In this series: head, mesosoma and metasoma castaneous. Aedeagal ventral ramus shorter than aedeagal dorsal body. In some specimens, apical lobes of aedeagal dorsal body has: outer margin angulate and inner margin very excavated. In others specimens: outer margin of apical lobes of aedeagal dorsal body subquadrate and inner margin almost straight.

Material examined. PANAMA, Bocas del Toro: 2♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos[col.] (MIUP); [Chiriquí]: 1♂, Fortuna, Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16.5"N, 82°11'27.3"W], 8–11.abr.1999, Malaise, R. Cambra, A. Santos [col.] (MIUP); Coclé Pr[ovince]: 2♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); Darién Pr[ovince]: 4♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 900 m, [08°00'N, 77°45'W], 21 mar–4ab 2000, Malaise, Cambra, Santos, Bermudez [col.] (1♂), 80 m, 16 nov 00–17ene 2001, R. Cambra, A. Santos [col.] (3♂) (MIUP); 1♂, Cana, Serrania de Pirre, 1250m, 4–7.vi.1996, J. Ashe, R. Brooks (UFES).

***Dissomphalus* sp. 23**
(Figs 24, 55, 86, 198–199)

Description. Male. Color: body dark castaneous. Head (Fig. 24). Mandible with three distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypealcarina high in profile, incomplete apically, straight in profile or nearly so. Frons strongly coriaceous and punctures small. Vertex crest straight. Pronotal disc coriaceous; anterior margin coarse. Metasoma (Fig. 55). Tergal process with lateral, shallow, subcircular and large depression, without tubercle, with short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 86). Genitalia (Figs 198–199). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, progressively narrowing apicad; cross section

laminar; surface horizontal; inner margin straight; outer margin sinuous; apex short, translucent, with two small projections, slightly curved outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and wide, with apical margin rounded and slightly mesad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Median clypeal lobe subtrapezoidal; head, metasoma and mesosoma castaneous. Pit of tergal process with few setae.

Remarks. This species is easily recognized by having the genitalia robust, the aedeagal ventral ramus very wide with apex translucent with two small projections. This species is similar to *D.* sp. 4 by having the aedeagal dorsal body robust and the aedeagal ventral ramus very wide. However, this species has paramere, basiparamere and apex of apical lobes of aedeagal dorsal body narrow and apex of aedeagal ventral ramus translucent with small projections whereas, *D.* sp. 4 has paramere and basiparamere wide, apex of aedeagal dorsal body wide and rounded and the apex of aedeagal ventral ramus simple and not translucent.

Material examined. Holotype ♂, PANAMA, *Chiriquí:* 08° 54,7' N 82° 47,3'W 17–18.vi.1996, 1875m, J. Ashe, R. Brooks F[light] I[interception] T[trap] (UFES). Paratypes: 3♂, same data as holotype; 1♂ 2 km W Cerro Punta, 1700 m, [08°51'N, 82°35'W], 19.V–8.VI.1977, Peck & Howden [col.] (CNCI); 1♂, P[arque] I[nternacional] L[a] A[mistad], Jurutungo, 1800 m, [08°54'N, 82°44'W], 30oci.5nov.1994, Tr[ampa] Malaise, A. Rodriguez [col.] (MIUP).

Distribution. Panama (Chiriquí).

***Dissomphalus* sp. 24**

(Figs 25, 56, 87, 200–201)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 25). Mandible with three distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina low in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc coriaceous; anterior margin carinate. Metasoma (Fig. 56). Tergal process lateral, without depression, without tubercle, with short tuft of setae. Posterior hypopygeal margin straight with median concavity (Fig. 87). Genitalia (Figs 200–201). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral

ramus shorter than dorsal body, wide, progressively narrowing apicad; cross section laminar; surface subhorizontal; inner margin concave; outer margin sinuous; apex long, simple, slightly curved inward; additional inner ramus absent; basal stub long and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe very long, horizontal and wide, with apical margin angled and laterad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Pronotal disc coarse. Tergal process with very short tuft of setae, without depression.

Remarks. This species is easily recognized by having the genitalia wide, apical lobes of aedeagal dorsal body very long and inner lobe of aedeagal dorsal body very big, extending through outer lobes of aedeagal dorsal body. This species is similar to species of *coronatus* species-group by having the tergal process without tubercle and the aedeagal dorsal body wide with crown-like structure. However, this species does not belongs to *coronatus* species-group because it does not have other structures that characterize the group, as the median clypeal lobe trapezoidal, the tergal process with dense tuft of setae convergent directed backward and depressions present.

Material examined. Holotype ♂, PANAMA, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 1000 m, [08°00'N, [77°45'W], 21 mar–4ab 2000, Malaise, Cambra, Santos, Bermudez [col.] (MIUP). Paratypes: 4 ♂, same data as holotype.

Distribution. Panama (Darién).

***Dissomphalus* sp. 25**

(Figs 26, 57, 88, 202–203)

Description. Male. Color: head dark castaneous; mesosoma and metasoma castaneous. Head (Fig. 26). Mandible with two distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina low in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures large. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 57). Tergal proces with lateral, shallow, subcircular and small depression, without tubercle, with very short tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 88). Genitalia (Figs 202–203). Paramere with dorsal margin entirely wide; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body, evenly narrow; cross section laminar;

surface subvertical; inner margin concave; outer margin sinuous; apex short, simple, parallel; additional inner ramus absent; basal stub short and very narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and narrow, with apical margin abruptly acute and ventrad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Median clypeal tooth shorter. Mesoma dark castaneous. Depression of tergal process very shallow.

Remarks. This species is easily recognized by having a very long basiparamere about 2 × the size of paramere. This characteristic does not have in others species in *Dissomphalus*. The paramere is wide and short, the apex of apical lobe of aedeagal dorsal body is articulated and the eyes are bulging.

Material examined. Holotype, ♂, PANAMA, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, [77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: 2♂, same data as holotype; 3♂, same of holotype except 1000m, 21 mar–4ab 2000 (2♂), 580 m, 21 mar–4ab 2000 (1♂) (MIUP).

Distribution. Panama (Darién).

***Dissomphalus* sp. 26**

(Figs 27, 58, 89, 204–205)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 27). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one rounded tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 58). Tergal process lateral, without depression, with very small, low and dorsad tubercle, pit very small, with short tuft of setae. Posterior hypopygeal margin sinuous (Fig. 89). Genitalia (Figs 204–205). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus higher than dorsal body, wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin sinuous; apex long, simple, parallel; additional inner ramus absent; basal stub very short and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe very short,

horizontal and narrow, with apical margin abruptly acute and slightly mesad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Pit of tubercle of tergal process without setae.

Remarks. This species is easily recognized by having the dorsal margin of paramere straight and apex very excavated in apical region and the apical lobes of aedeagal dorsal body very short. This species is similar to *D.* sp. 2 by having dorsal margin of paramere straight and apex very excavated. However, this species has tergal process present, apical lobes of aedeagal dorsal body very short and aedeagal ventral ramus progressively narrowing apicad, whereas *D.* sp. 2 has tergal process absent, apical lobes of aedeagal dorsal body long and apex of aedeagal ventral ramus narrowing abruptly apicad.

Material examined. Holotype, ♂, PANAMA, *Veraguas Pr[ovince]*: P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 120 m, [07º28'09"N, 81º45'24"W], 29 jul–4 ag 1998, Malaise, R. Cambra, S. Bermudez [col.] (MIUP). Paratypes: 1♂ same as holotype except 30–nov.–4dic.1998 (MIUP); 1♂ same as holotype except 200m (MIUP);1♂, Santa Fé, Altos de Piedra, 770 m [08°31'5.5"N, 81°06'30.4"W], 22–26 marzo 1999, Col. A. Santos, L. D. (MIUP); [*Chiriqui*]: 1♂, Formosa, Finca La Suiza 1 Km se. Hornitos, [08°40'N, 82°14'W], 28.V–2.VI.1994, Malaise Trap, F. Andrews & A. Gilbert [col.] (UCDC); *Coclé Pr[ovince]*: 4♂, El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m.[08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); [*Panama Province*]: 1♂, C[anal] Zone Barro Colorado I[sland], [09°09'N, 79°51'W], V.11.1981, R. B. & L. S. Kimsey [col.] (UCDC).

Distribution. Panama (Chiriqui, Veraguas, Coclé and Panama).

***Dissomphalus* sp. 27**

(Figs 28, 59, 90, 206–207)

Description. Male. Color: head and metasoma castaneous; metasoma light castaneous. Head (Fig. 28). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one rounded tooth; median clypeal carina high in profile, complete or nearly so, angled in profile. Frons weakly coriaceous and punctures small. Vertex crest strongly convex. Pronotal disc polished; anterior margin ecarinate. Metasoma (Fig. 59). Tergal process lateral, without depression, low and posterad tubercle, pit small, with long and dense tuft

of setae. Posterior hypopygeal margin sinuous (Fig. 90). Genitalia (Figs 206–207). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus higher than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin sinuous; apex short, simple, slightly curved outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and narrow, with apical margin rounded and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is similar to *D. krombeini* by having paramere expanded basally and the aedeagal ventral ramus abruptly narrowing apicad. However, this species has the tergal process with tubercle with tuft of setae and the apical lobes of aedeagal dorsal body longer, whereas the *D. krombeini* has the apical lobe of aedeagal dorsal body shorter and the tergal process linear with very short tuft of setae with one distincty long setae.

Material examined. Holotype, ♂, PANAMA, *Veraguas*: P[arque] N[acional] Coiba, Isla Coiba, Cerro la Equis, 90 m, [07º28'09"N, 81º45'24"W], 30–nov–4–dic.1998, Malaise, R. Cambra, S. Bermudez [col.] (MIUP). Paratypes: 3♂, same data as holotype; 4♂ same as holotype except 0 m (1♂), 120 m (2♂), 200m (1♂) (MIUP); 3♂ same as holotype except 90 m, 8–12 mar[ço] 1998 (1♂), 270 m, 7–13 mar 1998, R. Cambra, A. Santos [col.] (1♂), 29 jul–4 ago 1998 (1♂) (MIUP).

Distribution. Panama (Veraguas).

***Dissomphalus* sp. 28**

(Figs 29, 60, 91, 208–209)

Description. Male. Color: head and mesosoma castaneous; metasoma light castaneous. Head (Fig. 29). Mandible with four distal teeth. Median clypeal lobe ill-defined, with one angulate very short tooth; median clypeal carina high in profile, complete or nearly so, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 60). Tergal process lateral, without depression, with small, very low and dorsad tubercle, pit absent, with short and sparse tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 91). Genitalia (Figs 208–209). Paramere with dorsal margin wide basally; apical margin rounded. Aedeagal ventral ramus shorter than dorsal body,

wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin sinuous; apex long, simple, parallel; additional inner ramus absent; basal stub very short and very narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, horizontal and wide, with apical margin abruptly acute and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Head dark castaneous; median clypeal tooth inconspicuous. Pit of tubercle of tergal process with short setae.

Remarks. This species is easily recognized by having the paramere very expanded basally and four narrow projections that connect the apical lobes of aedeagal dorsal body with the median portion of the aedeagal dorsal body and the tergal process with a minute tubercle without pit with few setae. This species is similar to the *D. microtuberculatus*, Azevedo by having tergal process with two minute tubercle. However, this species has basiparamere shorter than paramere, apical lobes of aedeagal dorsal body without flagella and apex of aedeagal ventral ramus progressively narrowing apicad, whereas *D. microtuberculatus* has basiparamere longer than paramere, apical lobes of aedeagal dorsal body with flagella and apex of aedeagal ventral ramus abruptly acute.

Material examined. Holotype, ♂, PANAMA, *Coclé Pr[ovince]*: El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP). Paratypes: *Chiriqui*: 1♂, La Fortuna Dam, 1200 m, wet forest, [08°44'39"N, 82°14'58"W], 14–VI–16.VII–1982, F[light] I[nterception] T[rap], B. Gill [col.] (PMAE); 1♂, Fortuna, Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16.5"N, 82°11'27.3"W], 8–11.abr.1999, Malaise, R. Cambra, A. Santos [col.] (MIUP); 9♂, *Veraguas Pr[ovince]*: P[arque] N[acional] Coiba, Isla Coiba, Cerro La Equis, 90 m (8♂) and 200m (1♂) [07º28'09"N, 81º45'24"W], 30–nov.–4dic.1998, Malaise, R. Cambra, S. Bermudez [col.] (MIUP); 1♂, Pr[ovince] Santa Fé, Altos De Piedra, [08°31'5.5"N, 81°06'30.4"W], 13–17 nov. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); 1♂, [Rio] Calovébora, [Rio] Guazarito, [08º42'N, 81º13'W], 15–18 feb. 2000, Col. S. Bermudez (MIUP); 1♂ same data as holotype; 2♂, *Darien*: Cana, 600 m, [07°51'N, 87°37'W], 3–7.VI.1996, J. Ashe & R. Brooks [col.] (CNCI);

Distribution. Panama (Veraguas, Darien, Coclé and Chiriquí).

***Dissomphalus* sp. 29**

(Figs 30, 61, 92, 210–211)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 30). Mandible with two distal teeth. Median clypeal lobe subtrapezoidal, with one angulate tooth; median clypeal carina high in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin coarse. Metasoma (Fig. 61). Tergal process lateral, with deep, circular and large depression, with large, high and dorsad tubercle placed on center of depression, pit large, with short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 92). Genitalia (Figs 210–211). Paramere with dorsal margin entirely wide; apical margin truncate. Aedeagal ventral ramus as long as dorsal body, wide, progressively narrowing apicad; cross section laminar; surface horizontal; inner margin slightly sinuous; outer margin sinuous; apex long, simple, curved outward; additional inner ramus absent; basal stub short and very narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, subvertical and narrow, with apical margin rounded and dorsad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Variations. Depression of tergal process shallow.

Remarks. This species is easily recognized by having the paramere very wide, the apical lobes of aedeagal dorsal body conical-shaped, cuspis very small and the aedeagal ventral ramus wide basally. This species is similar to *D.* sp. 16 by having the aedeagal dorsal body narrowing slightly apicad and apical lobes of aedeagal dorsal body in conical-shaped. However, this species has tergal process present, the paramere very wide and the apex of apical lobes of aedeagal dorsal body anterad, whereas *D.* sp. 16 has tergal process absent, the paramere not wide and the apex of apical lobes of aedeagal dorsal body mesad.

Material examined. Holotype, ♂, PANAMA, *Coclé Pr[ovince]*: El Copé, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP). Paratypes: 5♂, same data as holotype; *Darién Pr[ovince]*: 1♂, P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 1000 m, [08°00'N, 77°45'W], 21 mar–4ab 2000, Malaise, Cambra, Santos, Bermudez [col.] (MIUP); 2♂, Cana, Serraria de Pirre, 1450m, 4–7.vi.1995 F[light] I[interception] T[rap], J Ashe, R. Brooks (UFES).

Distribution. Panama (Coclé and Darién).

***Dissomphalus* sp. 30**
(Figs 31, 62, 93, 212–213)

Description. Male. Color: head and mesosoma dark castaneous; metasoma castaneous. Head (Fig. 31). Mandible with two distal teeth. Median clypeal lobe trapezoidal, with one angulate tooth; median clypeal carina very high in profile, complete or nearly so, convex in profile. Frons weakly coriaceous and punctures small. Vertex crest straight. Pronotal disc weakly coriaceous; anterior margin coarse. Metasoma (Fig. 62). Tergal process median, without depression, with small, low and posterad tubercle, pit small, with very short and dense tuft of setae. Posterior hypopygeal margin straight or nearly so (Fig. 93). Genitalia (Figs 212–213). Paramere with dorsal margin entirely wide; apical margin rounded. Aedeagal ventral ramus higher than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface subhorizontal; inner margin straight; outer margin sinuous; apex long, simple, slightly curved outward, additional inner ramus absent, basal stub long and narrow. Aedeagal dorsal body with two pairs of apical lobes; outer lobe long, horizontal and narrow, with apical margin abruptly acute and ventrad; inner pair stout, membranous and setose. Apodeme extending beyond genital ring.

Remarks. This species is easily recognized by having the aedeagal dorsal body with two median cotyledon-shaped very small. The tergal process is median, characterized by two small tubercles without depressions and small tuft of setae. This species is similar *D. scamatus* Azevedo by having the tergal process median, without depression, tubercle and tuft of setae and basiparamere narrow. However, this species has apical lobes of aedeagal dorsal body long, two median cotyledon-shaped in aedeagal dorsal body and aedeagal ventral ramus abruptly narrowing apicad, whereas *D. scamatus* has apical lobes of aedeagal dorsal body short, without two median cotyledon-shaped in aedeagal dorsal body and aedeagal dorsal ramus narrowing apicad.

Material examined. Holotype, ♂, PANAMA, *Chiriquí*: 08°54,7'N, 82° 47,3'W 17–18.vi.1996, 1875m, F[light] I[interception]T[rap], J. Ashe, R. Brooks (UFES). Paratypes: 1♂, same data as holotype; 1♂, Finca La Suiza near Hornitos, [08°40'N, 82°14'W], 25–6.VI.2000, H. & A. Howden [col.] (CNCI); *[Los Santos]*: 3♂, Ojo de Agua, [07°31'N, 80°25'W], 30.VI–14.VII.1982, B. Gill [col.] (PMAE).

Distribution. Panama (Chiriquí and Los Santos).

***Dissomphalus* sp. 31**

(Figs 32, 63, 94, 214–215)

Description. Male. Color: body castaneous. Head (Fig. 32). Mandible with three distal teeth. Median clypeal lobe ill-defined, with one angulate tooth; median clypeal carina high in profile, incomplete apically, straight in profile or nearly so. Frons weakly coriaceous and punctures small. Vertex crest weakly concave. Pronotal disc weakly coriaceous; anterior margin ecarinate. Metasoma (Fig. 63). Tergal process lateral, with deeply excaveted, subcircular and large depression covered by a membrane, without tubercle, pit absent. Posterior hypopygeal margin strongly concave (Fig. 94). Genitalia (Figs 214–215). Paramere with dorsal margin wide basally; apical margin truncate. Aedeagal ventral ramus shorter than dorsal body, wide, abruptly narrowing apicad; cross section laminar; surface horizontal; inner margin straight; outer margin slightly sinuous; apex short, simple, slightly curved outward; additional inner ramus absent; basal stub absent. Aedeagal dorsal body with two pairs of apical lobes; outer lobe short, horizontal and wide, with apical margin abruptly acute and dorsad; inner pair stout, membranous and setose. Apodeme not extending beyond genital ring.

Variations. Mesosoma light castaneous. Metasoma castaneous; tergal process more laterad and longer.

Remarks. This species is easily recognized by having the median clypeal carina with angled elevation, the paramere very excavated and tergal process with deeply excaveted, subcircular and large depression covered by a membrane. This kind tergal process never was found in *Dissomphalus* and it is easily recognized in the genus. This species is similar to the *D. gilvipes* by having the paramere wide basally and the aedeagal ventral ramus short with acute apex. However, this species has the apical margin of paramere crenulate, apical lobes of aedeagal dorsal body wide and horizontal and the tergal process with very excavated depression covered by a membrane, whereas *D. gilvipes* has the paramere smooth, apical lobes of aedeagal dorsal body vertical and narrow and the tergal process with a tuft of setae with distinct long lateral setae.

Material examined. Holotype, ♂, PANAMA, *Darién Pr[ovince]*: P[arque] N[acional] Darién, Pirre, Est[ação] Rancho Frio, 80 m, [08°00'N, 77°45'W], 16 nov 00–17 ene 2001, Malaise, R. Cambra, A. Santos [col.] (MIUP). Paratypes: *Bocas del Toro*: 1♂, Wekso, Teribe, P[arque] I[nternacional] L[a] A[mistad], 50 msnm, [09º24'25"N, 82º56'20"W], 17–24 oct. 1999, Tr[ampa] Malaise, A. Santos [col.] (MIUP); [*Chiriquí*]:

2♂, Fortuna, Div. Cont. Chiriqui-B[ocas del] Toro, 1070–1090 m, [08°46'16.5"N, 82°11'27.3"W], 8–11.abr.1999, R. Cambra, A. Santos [col.] (MIUP); *Veraguas Pr[ovince]*: 1♂, Calovebora, Guazarito, 15–18 feb. 2000, malaise, Col. S. Bermudez (MIUP); 1♂, Santa Fé, Altos de Piedra, 770 m, [08°31'5.5"N, 81°06'30.4"W], 22–26 marzo 1999, Col. A. Santos, L. D. (MIUP); *Colón*: 5♂, 14 km N J[un]ct[ion] Escobal r[oa]d and Piña r[oa]d on Piña r[oa]d, ± 20 m, [09°20'N', 79°54'W], 2–3.VI.1995, F[light] I[nterception] T[rap], J. Ashe & R. Brooks [col.] (CNCI); *Coche {=Coclé}*: 1♂, El Cope {=El Copé}, [08°37'11"N, 80°35'03"W], 19.XI.1994, Windson & Edwards [col.] (CNCI); 6♂, Par[que] Nac[ional General de División] Omar Torrijos H[errera], 570–670 m.s.n.m., [08º41'56"N, 80º39'17"W], 26–30 sep. 1999, Tr[ampa] Malaise, A. Santos, P. González [col.] (MIUP); *Panamá Pr[ovince]*: 14♂, P[arque] Nac[ional] Sob[eranía], Camino, Plantación, [09º09'N, 79º43'W], 24 ago.–2 sep.1999, Malaise, A. Santos, P. González [col.] (MIUP); 5♂, P[arque] Nac[ional] Altos de Campana, [08º43'15"N, 80º01'43"W], 10–14 ago. 1999 (MIUP); 1♂, P[arque] N[atural] Metropolitano, [08º59'33"N, 79º32'41"W], 24 ago.–3 sep.1999 (MIUP); 1♂, Cerro Azul, Las Nubes, [09º10'N, [79º25'W], 9–15–oct.1999, R. Cambra, A. Santos [col.] (MIUP); 7♂, C[anal] Z[one], B[arro] Colorado Is[land], [09°09'N, 79°51'W], 15–31.VII.1994 (5♂), 1–14.VII.1994 (1♂) and 16–24.VIII.1994 (1♂) F[light] I[nterception] T[rap], D. Banks [col.] (CNCI); *Comarca Kuna Yala*: 1♂, Ustupu, Rio Abudi, [09º07'57"N, 77º55'36"W], 6–12 dic. 1999, Malaise, P. González [col.] (MIUP); 12♂, same data as holotype; 1♂, same as holotype except 1000 m, 21 mar–4ab 2000, Cambra, Santos, Bermudez [col.] (MIUP);1♂, same as holotype except 450m, 24–26 marzo 2001, col. A. Santos (MIUP); 19♂, same province of holoype, Cruce de Mono, Est[acion] I[nstituto] N[acional de] Re[cusos] Na[turales] Re[novables], P[arque] Nac[ional] Darién, [07°51'26.3"N, 77°28'12.7"W], 5–28 feb 1993, R. Cambra [col.] (MIUP);

Distribution. Panama (Bocas del Toro, Chiriquí, Veraguas, Coclé, Cólon, Panama, Comarca Kuna Yala and Darién).

Discussion

The taxonomy of *Dissomphalus* is mainly based on the characters found in the clypeus, in the metasomal tergal process and in the genitalia (Azevedo 1999a). Such

structures are quite variable intragenericaly but they seem to remain constant intraspecificaly species and, therefore, they provide information to distinguish them (Azevedo 2010). The specimens of this study presented a wide range of phenetical variety reinforcing their diversity as emphasized by similar studies carried out on *Dissomphalus* (Azevedo 1999a, 2003 Alencar & Azevedo 2006, 2008 and Colombo & Azevedo 2016).

New patterns of tergal process came up with the discovery of the new species described here. In *D. sp. 30*, the tergal process is composed by a median pair of tubercles, without depression, with a small pit and with tufts of short setae (Fig. 62). This tergal process resembles *D. scamatus* that also has a pair of tubercles, but in this one the tubercles are higher, the pit is larger with very dense and longer tuft of setae. Another species with unusual tergal process is *D.* sp. 31, characterized by having a deep subcircular excavation covered by a membrane (Fig. 63) that is not found within the genus.

The clypeus also showed some novelties. In *D.* sp. 11 and *D.* sp. 1 the median clypeal lobe is ill-defined, but the median clypeal tooth is very long (Figs 12 and 1). The clypeus of *D.* sp. 11 is similar to that of *D. longiclypeus* because of its size, however the *D*. sp. 11has a much longer median clypeal tooth than second one. *D.* sp. 1 has an unusual clypeal modification in the median tooth that has a high dorsal keel (Fig. 2).

Almost all the species studied have the ventral region of the head without any structure or projection. However, a pair of spine in the gena in *D.* sp.1. This kind of spine is seen in other species of the genera, such as *D. cornutus* Evans and in some species from Papua New Guinea, described by Mugrabi & Azevedo (2016) (*e. g. D. grauna* Mugrabi & Azevedo, *D. pepa* Mugrabi & Azevedo, *D. plaua* Mugrabi & Azevedo and *D. pukpuk* Mugrabi & Azevedo). The species from Papua New Guinea have a pair of spine located in hypostomal carina, similar as the one seem in *D. cornutus* and different from *D.* sp.1 specimens.

In general, the pattern of the genitalia of the Panamanian species tends to follow the pattern seen in Neotropical species, such as: variations commonly found in the paramere format, entirely wide or wide basally; aedeagal ventral ramus without additional modification. Nevertheless, it was possible to verify important variations in the aedeagal ventral ramus, as in the general format, from straight to sinuous (Figs 150, 163, 211, 215), from very wide to narrow (Figs 102, 199, 203, 172), with dilations and folds in certain parts (Figs 150, 203, 205), with inner and outer margin from very sinuous to straight (Figs

129, 138, 211, 213) and at the apex such as presence of setae, projections, opacity and format (rounded, straight, wavy, acute and oblique) (Figs 129, 138, 207, 209).

Panamanian species of *Dissomphalus* have also some similarities when compared with Nearctic species. The apical lobes of aedeagal dorsal body are generally composed of two pairs, as in *D. evansi* Azevedo and *D. californicus* Ashmead. The aedeagal ventral ramus is simple without additional structures such *D. apertus*, *D. krombeini*, *D.* sp. 15 and *D.* sp. 2 (Figs 159 and 98).

The species found in this work have some similarities with species from Australian region, described by Mugrabi & Azevedo (2016). According to them, some Papuan New-Guinea species have an excessive prolongation in the medial portion of the aedeagal ventral ramus, as in some Neotropical species such as *D. cervoides*, *D. rettenmeyeri*, *D. plaumanni* and *D. rufipalpis* (Figs 127, 192 and 169). We were able to find such modification in *D. sp. 9*, *D. sp. 12*, *D. sp. 20* and *D. sp. 30* (Figs 132, 138, 178 and 213).

Another interesting characteristic is the very narrow basiparamere, common in Papuan New Guinea species such as *D. abababa* Mugrabi & Azevedo, *D. anka* Mugrabi & Azevedo, *D. bratasusa* Mugrabi & Azevedo, *D. kiau* Mugrabi & Azevedo and *D. han* Mugrabi & Azevedo. This condition was observed in *D.* sp. 25, but in this latter species it is twice as long as the paramere, which is unique in the genus (Fig. 202).

Regarding the distribution of the species, *D. rettenmeyeri*, *D. sp. 21*, *D. sp. 31* and *D.* sp. 3 have the widest geographic known distributions being found in almost all collection localities. Other species, such as *D.* sp. 27, *D.* sp. 22 and *D.* sp. 8, appear to have their geographical distributions restricted to a single locality, such as Veraguas, the first one, and Bocas del Toro, the last two species.

Of all species, *D. rettenmeyeri* is the most abundant, since it represents 16% of the total specimens studied (274 of 1744 specimens). However, others species such as *D.* sp. 21, 5.2% (91 of 1744 specimens), *D.* sp. 31 3.9% (69 of 1744 specimens) and *D. sp. 3* 3.8% (66 of 1744 specimens) also appear to be abundant. Others species are rare such *D.* sp. 11, *D.* sp. 1 and *D. strepsus* with less than six specimens representing 0.3% of the material each them.

Although it is an abundant, diverse genus and even with the large number of studies that have been dedicated to *Dissomphalus*, especially in recent years, there are still many gaps to be filled regarding the knowledge of this genus. Central America has been declared a biodiversity hotspot based on the existence of a large number of endemic

species by area (Karmalkar *et al*. 2011). Despite this, many countries in this region have little or any record of this genus.

Panama and Costa Rica have the largest number of species of *Dissomphalus* in the Central America, with 25 and 23 species respectively, as expected, they have a very similar fauna of *Dissomphalus*. Other countries, such as Honduras, Guatemala, Belize and Dominican Republic, have four, seven, eight and nine species known for the genus, respectively. In contrast, there are places like Nicaragua and El Salvador with one and two known species respectively. For the Caribbean islands, countries like the Bahamas, Barbados and Puerto Rico do not present any record of *Dissomphalus*. This shows that there is still a lot to be explored in this region, as we have found of diversity, and, thus, increasing the number of species for these places becomes a future challenge and good perspectives for the study of *Dissomphalus*.

Acknowledgements

We thank Diomedes Quintero, Museo de Invertebrados, Universidad de Panama "G.B. Fairchild", Panama (MIUP) for the loaning of material studied. We thank Daniele Mugrabi who helped writing of the manuscript. We are also very greatful to subject editor Arkadiv S. Lelej and anonymous reviewer for the revision and suggestions regarding the manuscript. The first author has a master scholarship of Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES); the second author thanks CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico) for researcher fellowship, grant #305746/2014–6.

References

Alencar, I.D.C.C. & Azevedo, C.O. (2008) A new species-group of *Dissomphalus* (Hymenoptera: Bethylidae), with description of thirteen new species. *Zootaxa*, 1851, 1–28.

Alencar, I.D.C.C. & Azevedo, C.O. (2006) Definition of Neotropical *coronatus* species-group (Hymenoptera: Bethylidae, *Dissomphalus*) with description of thirteen new species. *Zootaxa*, 1330, 1–26.

Ashmead, W.H. (1893) Monograph of the North American Proctotrypidae. Bulletin of the United States National Museum, 45, 1–472. http://dx.doi.org/10.5479/si.03629236.45.1

Ashmead, W.H. (1894) Report on the Cynipidae, part of the Braconidae, the Ichneumonidae, the Proctotrypidae, and part of the Chalcididae. Part III. *Journal of Linnean Society of London, Zoology*, 25, 188–254.

Autoridad Nacional del Ambiente (1998) Primer informe de la riqueza y estado de la biodiversidade de Panamá. República de Panamá, 1–37. Avaliable from: https://www.cbd.int/doc/world/pa/pa-nr-01-p1-es.pdf (accessed 27 Dezembro 2016)

Autoridad Nacional del Ambiente (2010) Atlas Ambiental de la República de Panamá. Panamá, 1–190. Available from: http://miambiente.gob.pa/images/stories/BibliotecaVirtualImg/AtlasAmbiental.pdf (accessed 22 Dezembro 2016).

Azevedo, C.O. (1999a) Revision of the Neotropical *Dissomphalus* Ashmead, 1893 (Hymenoptera, Bethylidae) with median tergal process. *Arquivos de Zoologia*, 35 (4), 301–394. http://dx.doi.org/10.11606/issn.2176-7793.v35i4p301-394

Azevedo, C.O. (1999b) Additional notes on systematic of Neotropical *Dissomphalus* Ashmead (Hymenoptera, Bethylidae). *Revista Brasileira de Zoologia*, 16, 921–949. http://dx.doi.org/10.1590/S0101-81751999000400001

Azevedo, C.O. (1999c) On Nearctic *Dissomphalus* (Hymenoptera, Bethylidae), with the description of two new species from Florida, *Iheringia*, série Zoologia, 87, 49–56.

Azevedo, C.O. (2001) Systematics of the Neotropical *Dissomphalus* Ashmead (Hymenoptera, Bethylidae) of the *bicavatus* group. *Revista Brasileira de Entomologia*, 45, 173–205.

Azevedo, C.O. (2003) Synopsis of Neotropical *Dissomphalus* (Hymenoptera, Bethylidae). *Zootaxa*, 338, 1–74.

Azevedo, C.O. (2008) Caracterization of the types of the Neotropical *Pseudisobrachium* (Hymenoptera: Bethylidae), with a key to species. *Revista Brasileira de Zoologia*, 25, 737–801. http://dx.doi.org/10.1590/S0101-81752008000400020

Azevedo, C.O. (2010) Review of Afrotropical *Dissomphalus* (Hymenoptera, Bethylidae), with emphasis on genitalia. *Journal of Afrotropical Zoology*, 6, 9–22.

Colombo, W.D. & Azevedo, C.O. (2016) Review of *Dissomphalus* Ashmead, 1893 (Hymenoptera, Bethylidae) from Espírito Santo, Brazil, with description of twenty-one new species. *Zootaxa*, 4143, 1–84. http://doi.org/10.11646/zootaxa.4143.1.1

Cuarto Informe Nacional de Panamá ante el Convenio sobre la Diversidad Biológica (2010). Panamá, 1–110. Available from: https://www.cbd.int/doc/world/pa/pa-nr-04-es.pdf/ (accessed 22 Dezembro 2016).

Dalla Torre, C.G. de. (1898) Catalogus Hymenopterum hucusque descriptorum systematicus et synonymicus. Chalcididae et Proctotrupidae. *Suptibus Guilelmi Engelmann*, 5, 1–598.

Evans, H.E. (1969) Phoretic copulation in Hymenoptera. *Entomological News*, 80, 113–124.

Evans, H.E. (1955 ["1954"]) The North American species of *Dissomphalus* (Hymenoptera, Bethylidae). Proccedings of the Entomological Society of Washington, 56, 287–309.

Evans, H.E. (1962) Further studies on the genus *Dissomphalus* in the United States, Mexico, and Greater Antilles (Hymenoptera, Bethylidae). *Proceedings of the Entomological Society of Washington*, 64, 65–78.

Evans, H.E. (1964) A synopsis of the American Bethylidae (Hymenoptera, Aculeata). *Bulletin of the Museum of Comparative Zoology*, 132, 1–222.

Evans, H.E. (1979) The genus *Dissomphalus* in Northwestern South America (Hymenoptera, Bethylidae). *Proceedings of the Entomological Society of Washington*, 81, 276–284.

Gordh, G. & Móczár, L. (1990) A catalog of the world Bethylidae (Hymenoptera). *Memoirs of the American Entomological Institute*, 46, 1–364.

Harris, R.A. (1979) A glossary of surface sculpturing. Occasional Papers in Entomology, 28, 1–31.

Karmalkar, A.V, Bradley, R.S & Diaz, H.F. (2011) Climate change in Central America and Mexico: regional climate model validation and climate change projections. *Climate Dynamics*, 37, 605–629.

Kieffer, J.J. (1908) Bethylidae. *Genera Insectorum*, 76, 150 + 3 plates.

Kieffer, J.J. (1910a ["1909"]) Description de nouveaux béthylides (Hyménoptères). *Annales de la Société Entomologique de France*, 78, 287–348.

Kieffer, J.J. (1910b) Description de nouveaux microhyménoptères du Brézil. *Annales de la Société Entomologique de France*, 79, 31–56.

Kieffer, J.J. (1914) Bethylinae. *Das Tierreich*, 41, 228–595.

Kieffer, J.J. & Marshall, T.A. (1904–1906) Proctotrypidae. In: André, E. (Ed.), *Species des Hyménoptères d'Europe & d'Algérie. Tome Neuvième*. A. Hermann, Paris, 552 pp. + 21 pl., (1904) 1–64 + pl. 1–8, (1905) 65–288 + pl. 9–16, (1906) 289–552 + pl. 17–21.

Leigh, G.E, O'Dea, A. & Vermeij, G.J. (2014) Historical biogeography of the Isthmus of Panama. *Biological Reviews*, 148–172. doi:10.1111/brv.12048.

Mugrabi, D.F & Azevedo C.O. (2016) Description of 91 new species of *Dissomphalus* Ashmead (Hymenoptera: Bethylidae) from New Guinea Island and surrounded areas. *In*: Robillard T., Legendre F., Villemant C. & Leponce M. (Eds), *Insects of Mount Wilhelm, Papua New Guinea*. Muséum national d'Histoire naturelle, Paris, pp. 451–564 (Mémoires du Muséum national d'Histoire naturelle; 209).

Murgas, A.S. (2006) Riqueza y distribución de espécies de la subfamília Pristocerinae (Insecta: Hymenoptera: Bethylidae) em Panamá. *Scientia*, 21, 7–18.

Murgas, A.S & González, P.E.D. (2004) Notas sobre la família Bethylidae (Hymenoptera: Aculeata) del Parque Nacional Darién. *Tecnociencia*, 6, 43–57.

Ogloblin, A.A. (1930) Notes on Bethylidae with the description of two new species from Misiones. *Revista de la Sociedad Entomologica Argentina*, 3, 15–24.

Parker, T, Carrión, J & Samudio, R. (2004) Section 118/119 Biodiversity and tropical forestry assessment of the USAID/Panama Program-Environment, biodiversity, water and tropical forest. Conservation, protection and management in Panama: Assessment and recommendations. USAID: Panamá. Avaliable from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.454.3074&rep=rep1&type=pdf (accessed 22 Dezembro 2016).

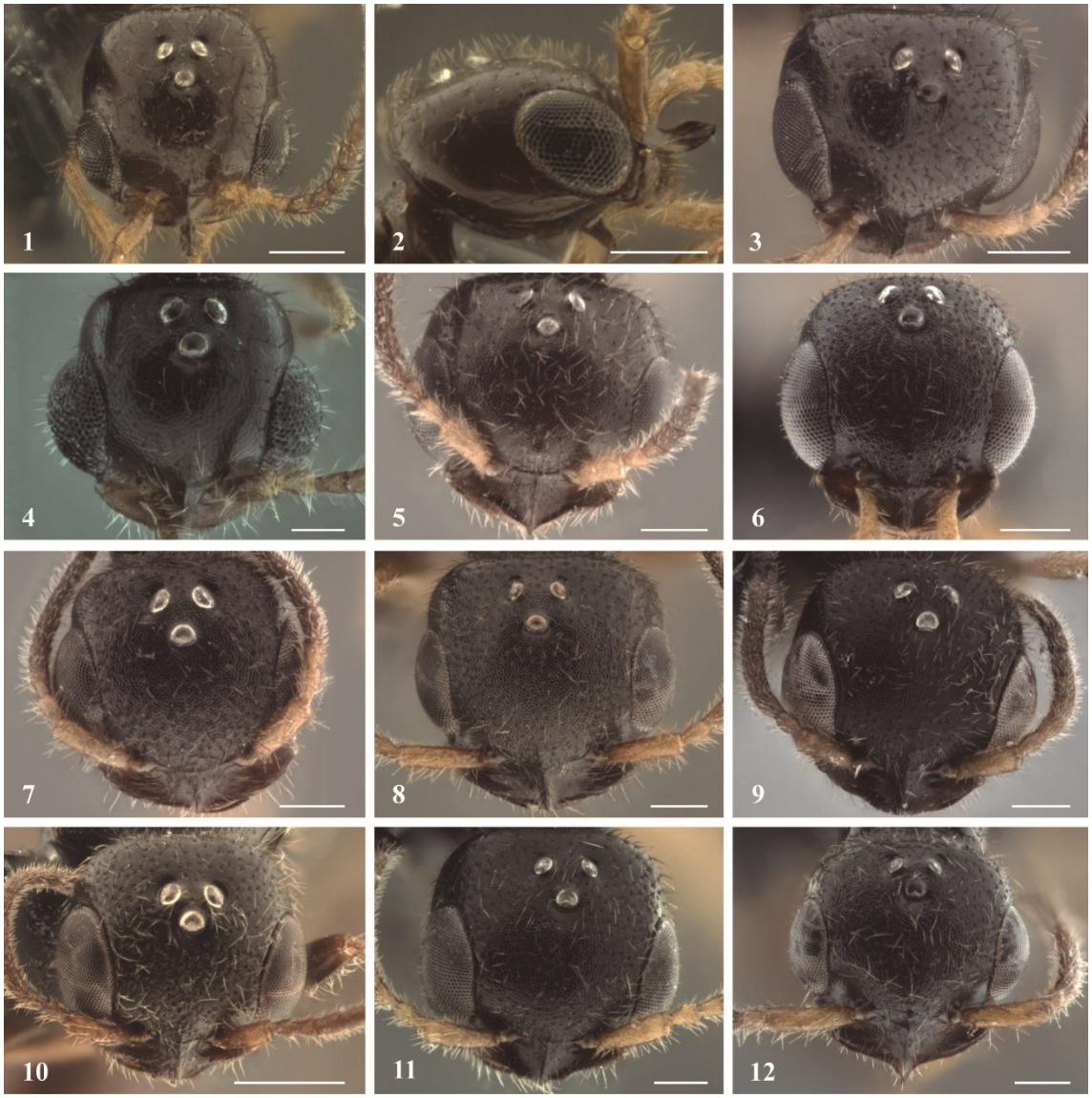
Ramírez, C.A. (2003) *Estado de la diversidade biológica de los árboles y bosques de Panama*. Recursos Genéticos Forestales. FGR/50S Servicio de Desarollo de Recursos Forestales, Dirección de Recursos Forestales, FAO, Roma.

Redighieri, E.S. & Azevedo, C.O. (2004) New species and notes on *Dissomphalus* (Hymenoptera, Bethylidae) from Estação Biológica de Santa Lúcia, ES, Brazil. *Iheringia, série Zoologia*, 94, 329–333. http://dx.doi.org/10.1590/S0073-47212004000300018

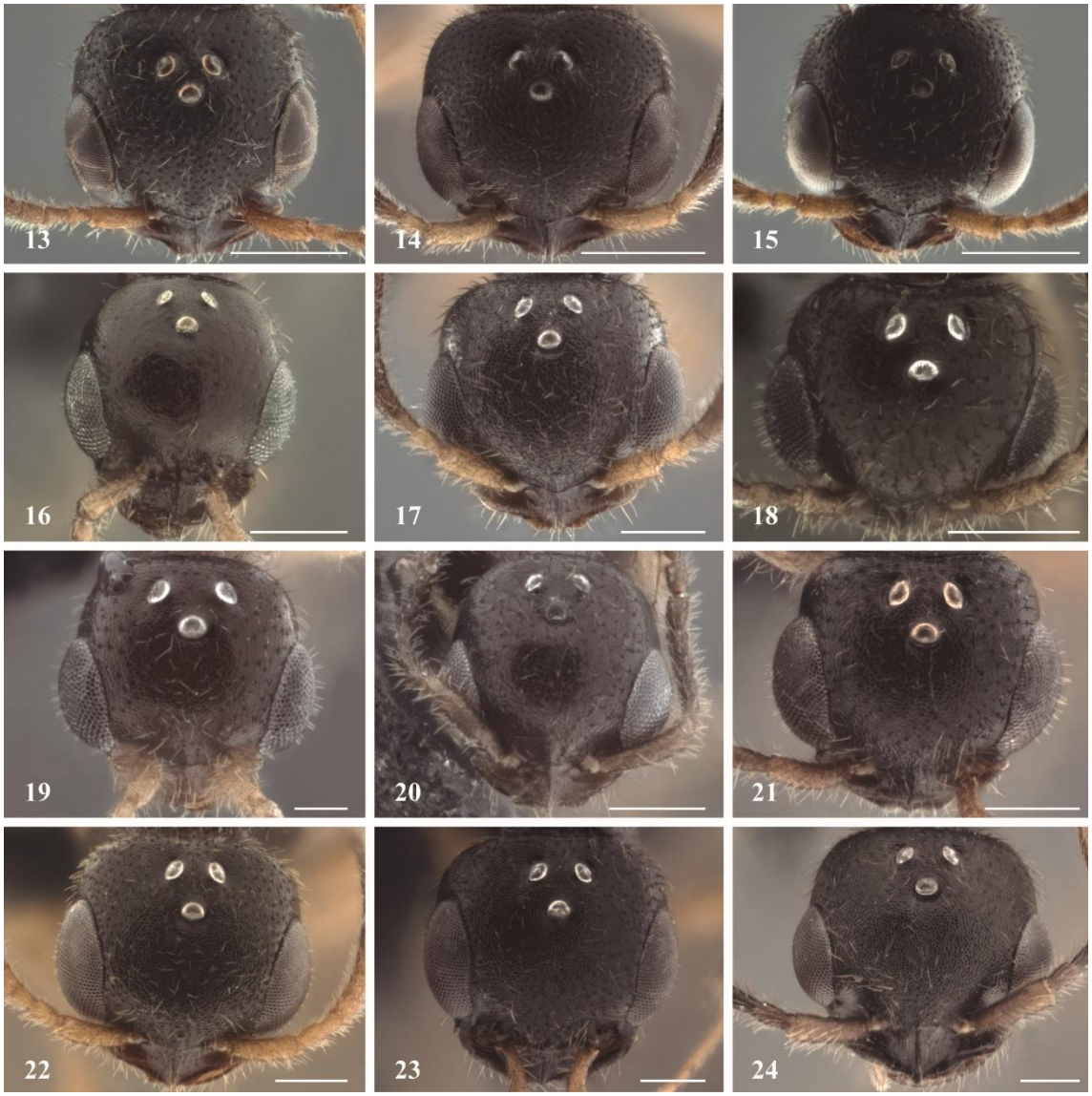
Redighieri, E.S. & Azevedo, C.O. (2006) Fauna de *Dissomphalus* Ashmead (Hymenoptera, Bethylidae) da Mata Atlântica Brasileira, com descrição de 23 espécies novas. *Revista Brasileira de Entomologia*, 50, 297–334. http://dx.doi.org/10.1590/S0085-56262006000300001

Terayama, M. (1995) Three new species of the genus *Dissomphalus* (Hymenoptera: Bethylidae) from Asia. *Edaphologia*, 54, 9–12.

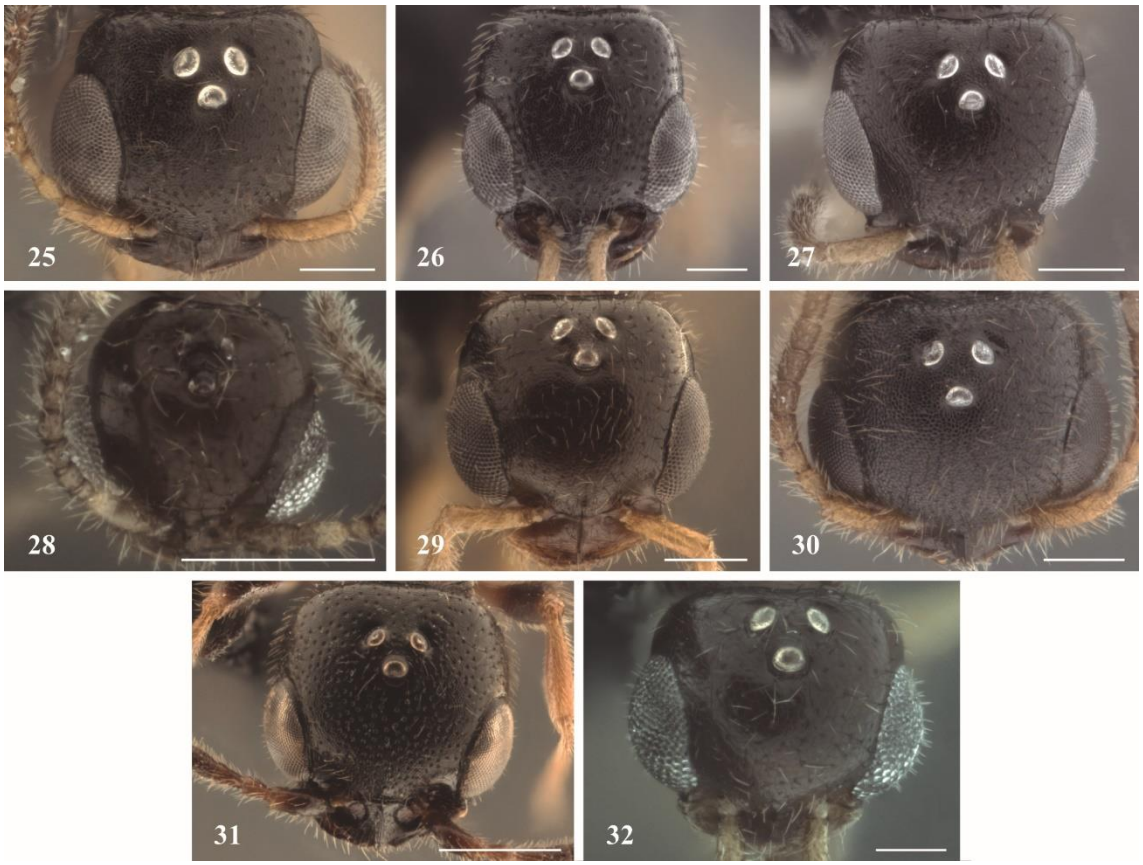
Wasmann, E. (1899) Die psychischen Fähigkeiten der Ameisen. *Zoologica*, 11 (26), 1–133.



FIGURES 1–12. *Dissomphalus* spp., ♂, head in dorsal view. 1–2. *D.* sp. 1 3. *D.* sp. 2. 4. *D.* sp. 3. 5. *D.* sp. 4. 6. *D.* sp. 5. 7. *D.* sp. 6. 8. *D.* sp. 7. 9. *D.* sp. 8. 10. *D.* sp. 9. 11. *D.* sp. 10. 12. *D.* sp. 11.. 1, 3–12, dorsal view, 2, lateral view. Scale bar = 20 µm, except *D.* sp. 9. = 50 µm and *D.* sp. 3.= 100 µm.

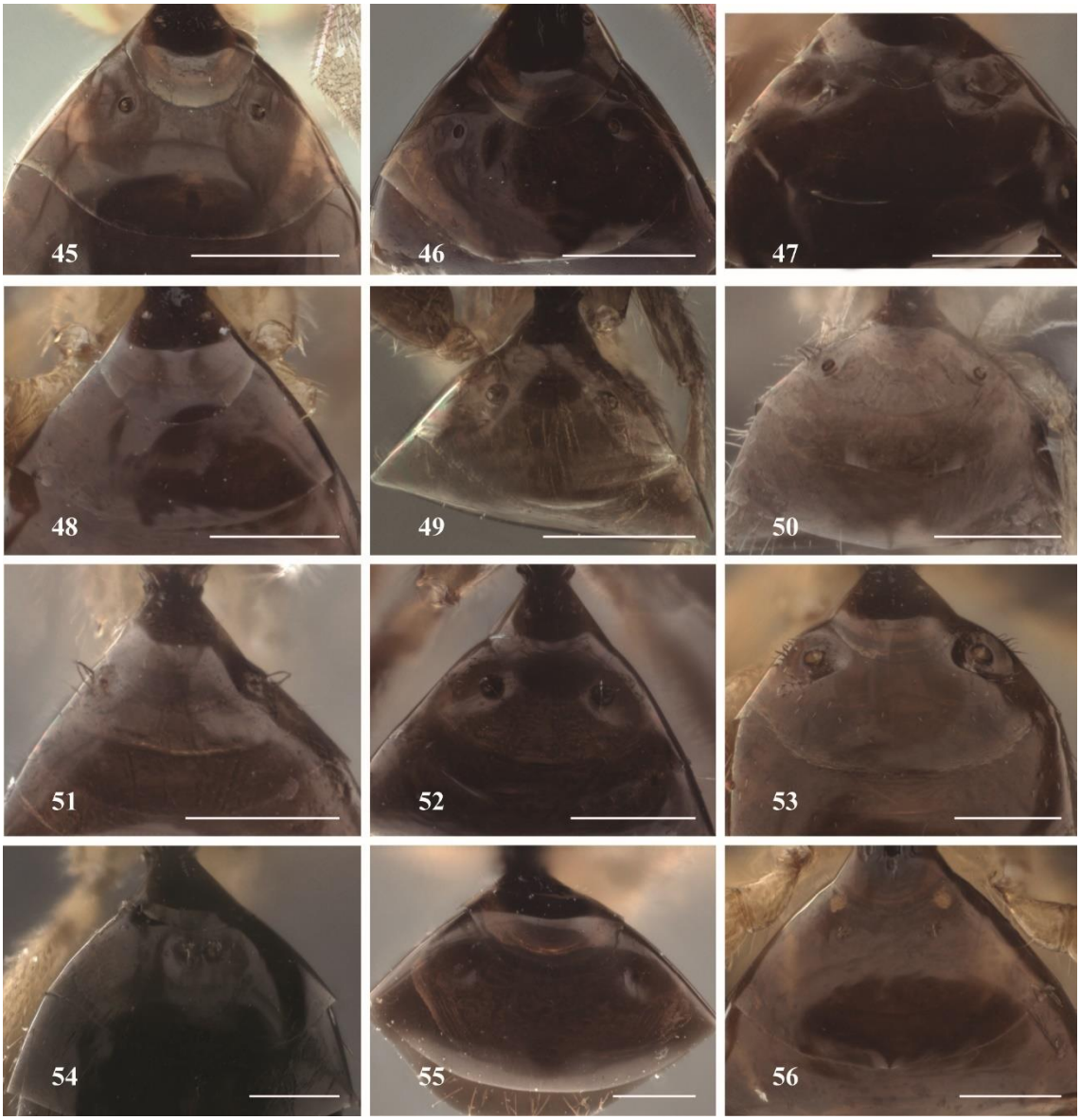


FIGURES 13–24. *Dissomphalus* spp., ♂, head in dorsal view. 13. *D.* sp. 12. 14. *D.* sp. 13. 15. *D.* sp. 14. 16. *D.* sp. 15. 17. *D.* sp. 16. 18. *D.* sp. 17. 19. *D.* sp. 18. 20. *D.* sp. 19. 21. *D.* sp. 20. 22. *D.* sp. 21. 23. *D.* sp. 22. 24. *D.* sp. 23.. Scale bar = 20 µm, except *D.* sp. 13., *D.* sp. 18. = 10 µm and *D. sp. 14*. = 50 µm.

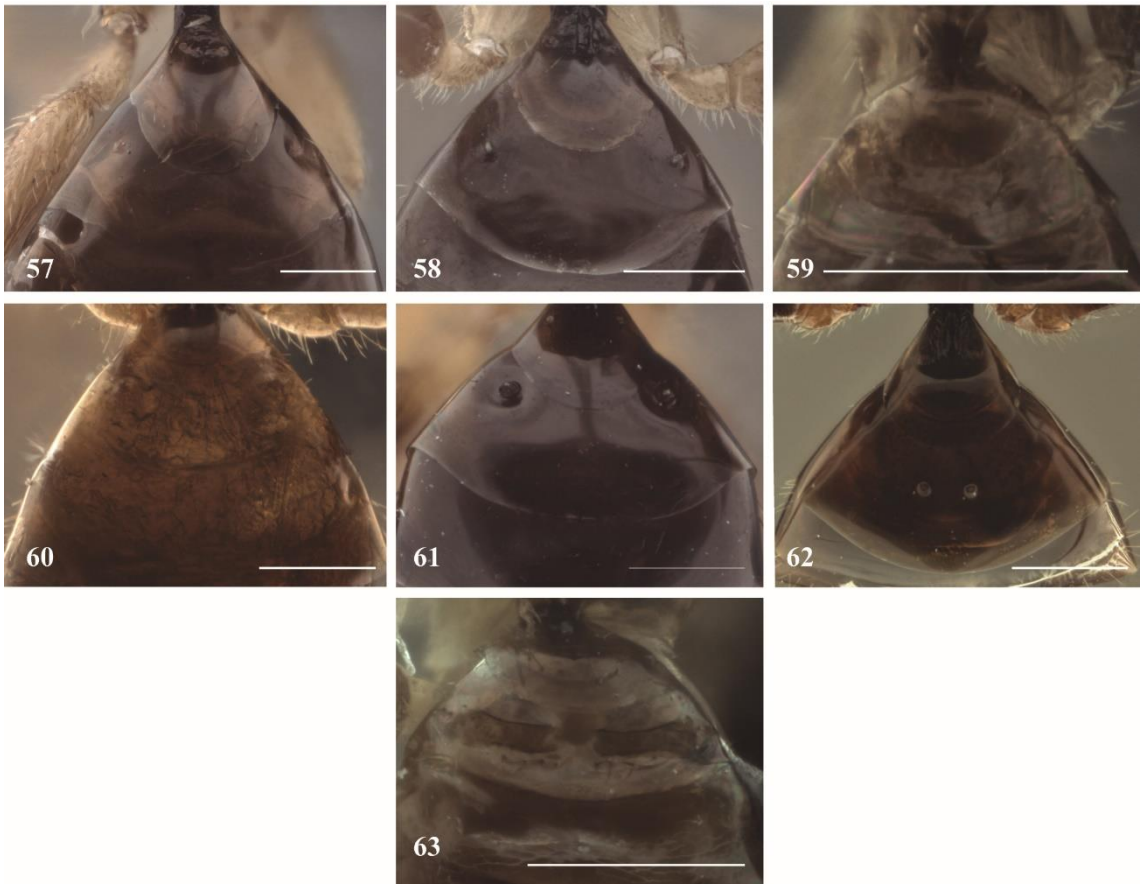


FIGURES 25–32. *Dissomphalus* spp., ♂, head in dorsal view. 25. *D.* sp. 24. 26. *D.* sp. 25. 27. *D.* sp. 26. 28. *D.* sp. 27. 29. *D.* sp. 28. 30. *D.* sp. 29. 31. *D.* sp. 30. 32. *D.* sp. 31.. Scale bar = 20 µm, except *D. sp. 30*. = 50 µm and *D. sp. 31*.= 100 µm.

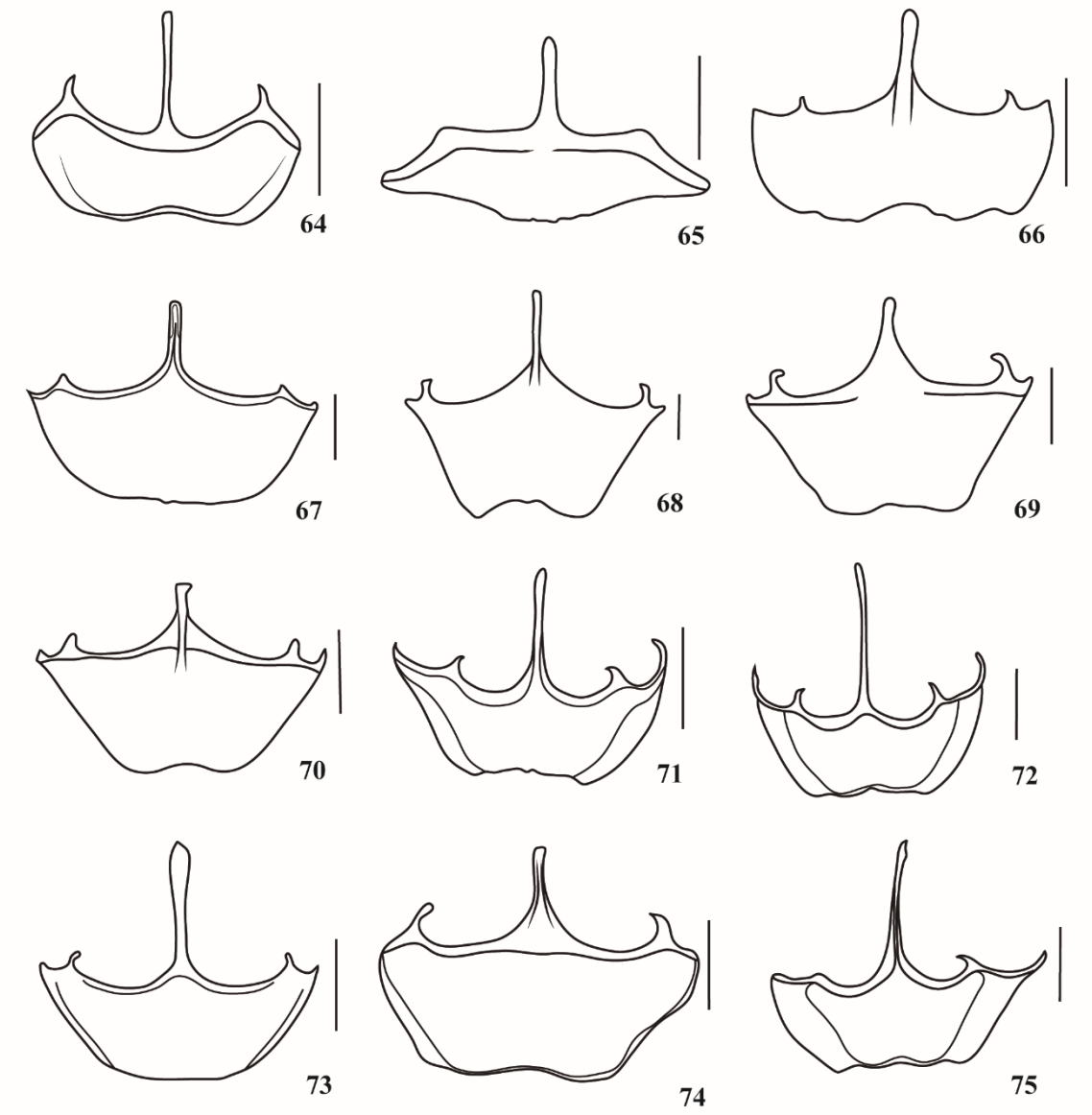
FIGURES 33–44. *Dissomphalus* spp., ♂, metasomal tergal process in dorsal view. 33. *D.* sp. 1. 34. *D.* sp. 2. 35. *D.* sp. 3. 36. *D.* sp. 4. 37. *D.* sp. 5. 38. *D.* sp. 6. 39. *D.* sp. 7. 40. *D.* sp. 8. 41. *D.* sp. 9. 42. *D.* sp. 10. 43. *D.* sp. 11. 44. *D.* sp. 12.. Scale bar = 20 µm, except *D.* sp. 3.. = 200 µm.



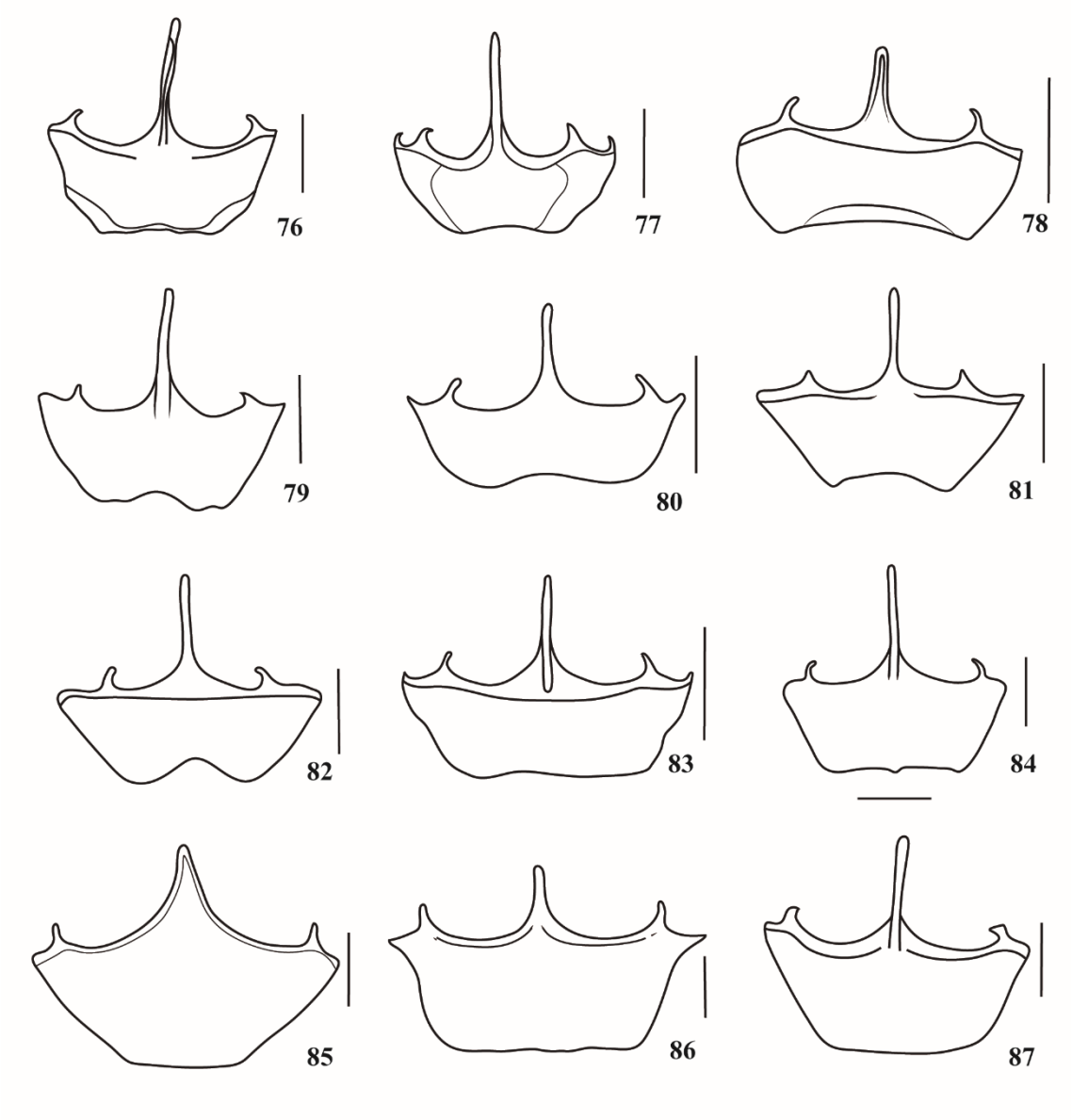
FIGURES 45–56. *Dissomphalus* spp., ♂, metasomal tergal process in dorsal view. 45. *D.* sp. 13. 46. *D.* sp. 14. 47. *D.* sp. 15. 48. *D.* sp. 16. 49. *D.* sp. 17. 50. *D.* sp. 18. 51. *D.* sp. 19. 52. *D.* sp. 20. 53. *D.* sp. 21. 54. *D.* sp. 22. 55. *D.* sp. 23. 56. *D.* sp. 24.. Scale bar = 20 µm except *D.* sp. 13. and *D.* sp. 14.= 50 µm.



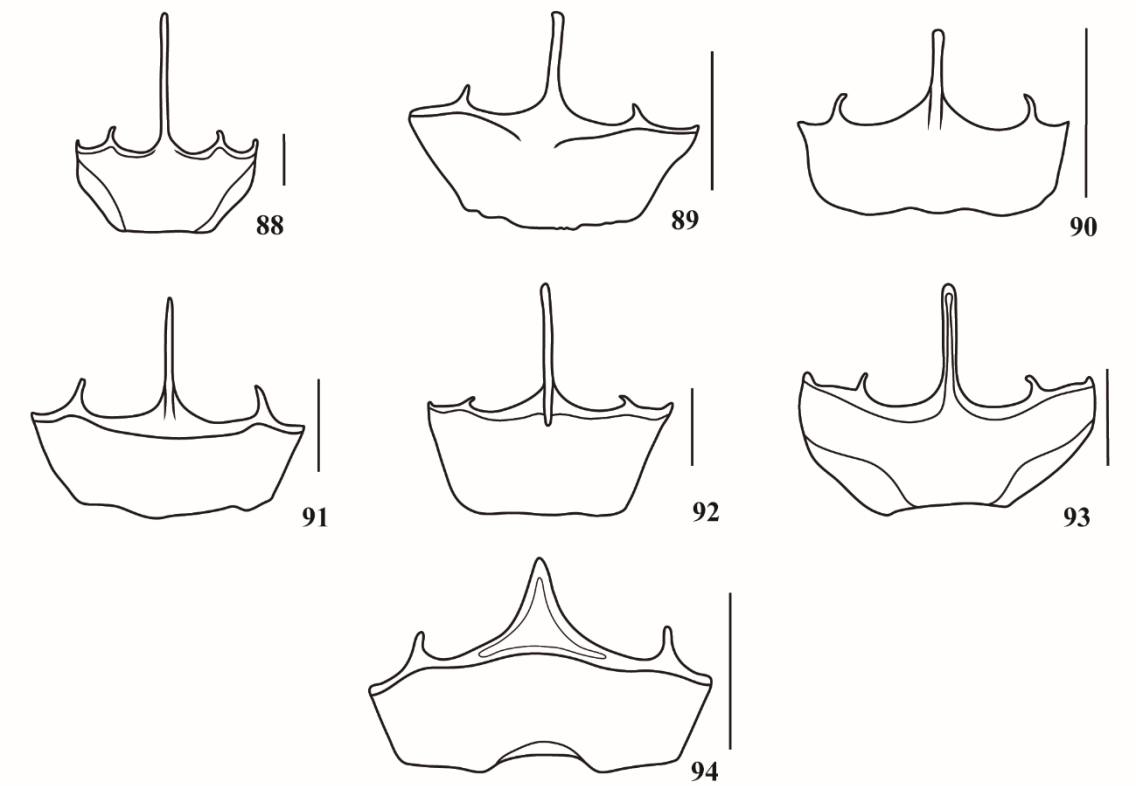
FIGURES 57–63. *Dissomphalus* spp., ♂, metasomal tergal process in dorsal view. 57. *D.* sp. 25. 58. *D.* sp. 26. 59. *D.* sp. 27. 60. *D.* sp. 28. 61. *D.* sp. 29. 62. *D.* sp. 30. 63. *D.* sp. 31.. Scale bar = 20 µm, except *D.* sp. 30. = 50 µm and *D.* sp. 31.= 200 µm.



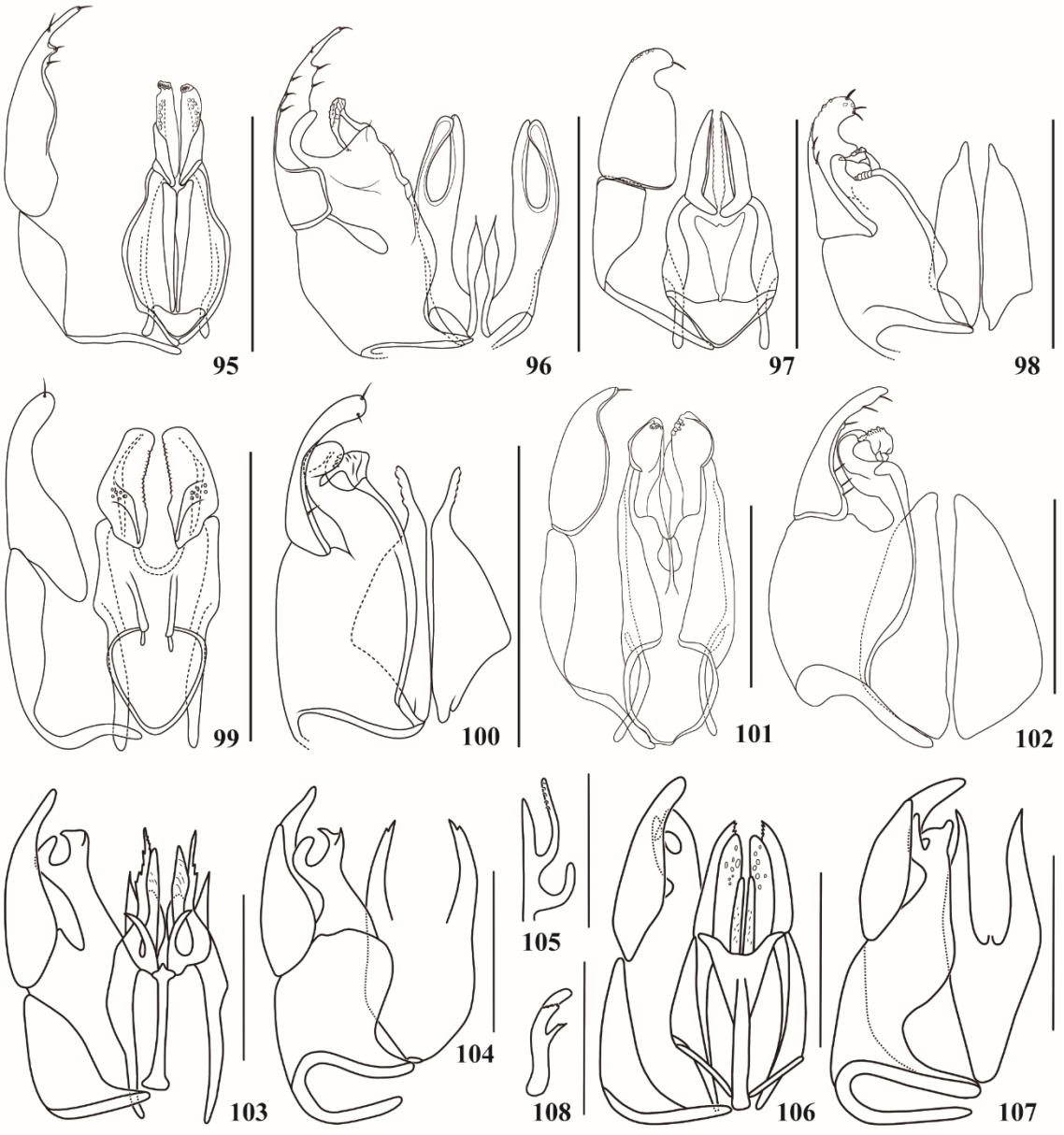
FIGURES 64–75. *Dissomphalus* spp., ♂, hypopygium in dorsal view. 64. *D.* sp. 1. 65. *D.* sp. 2. 66. *D.* sp. 3. 67. *D.* sp. 4. 68. *D.* sp. 5. 69. *D.* sp. 6. 70. *D.* sp. 7. 71. *D.* sp. 8. 72. *D.* sp. 9. 73. *D.* sp. 10. 74. *D.* sp. 11. 75. *D.* sp. 12.. Scale bar = 125 µm.



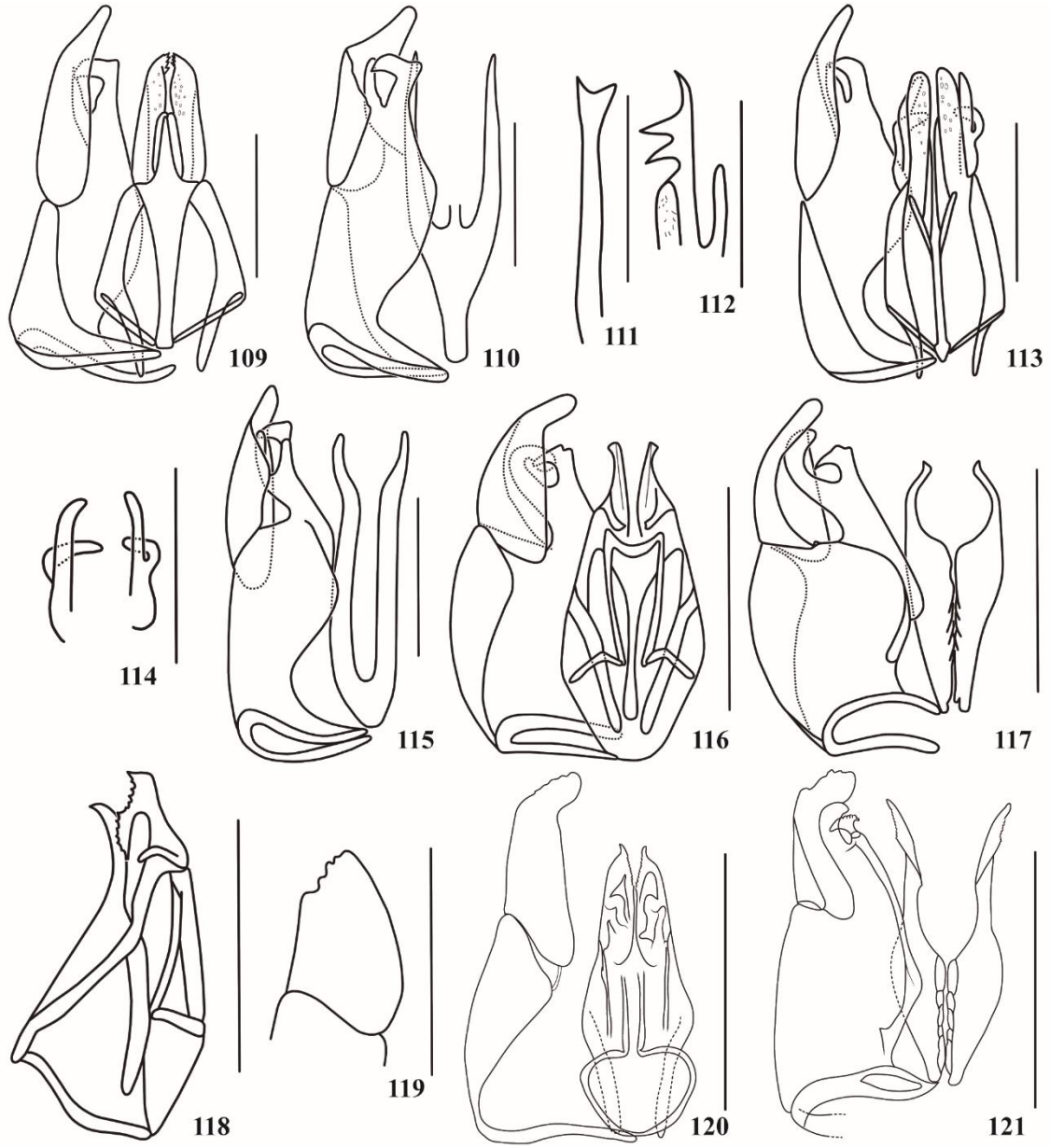
FIGURES 76–87. *Dissomphalus* spp., ♂, hypopygium in dorsal view. 76. *D.* sp. 13. 77. *D.* sp. 14. 78. *D.* sp. 15. 79. *D.* sp. 16. 80. *D.* sp. 17. 81. *D.* sp. 18. 82. *D.* sp. 19. 83. *D.* sp. 20. 84. *D.* sp. 21. 85. *D.* sp. 22. 86. *D.* sp. 23. 87. *D.* sp. 24.. Scale bar = 125 µm.



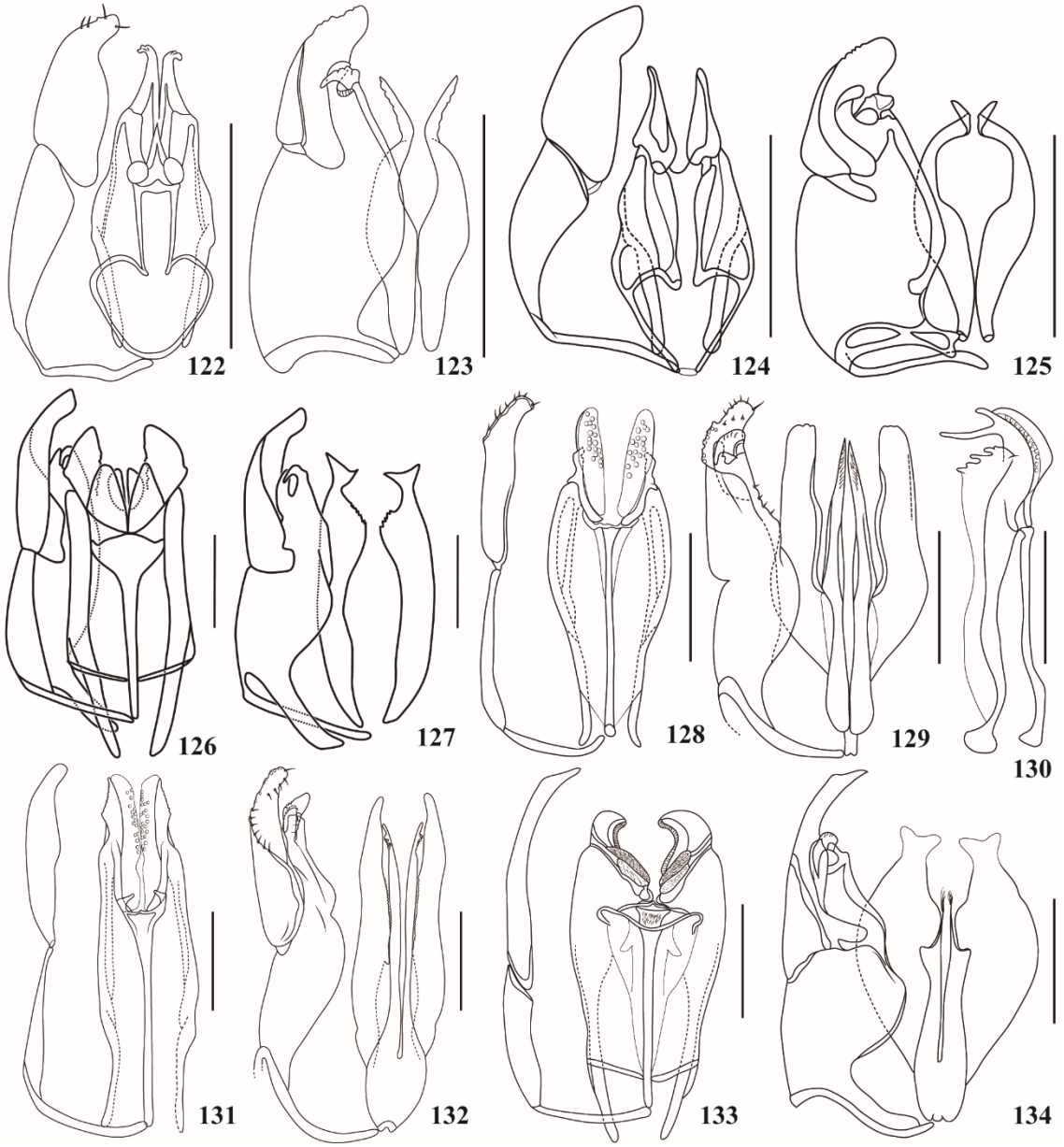
FIGURES 88–94. *Dissomphalus* spp., ♂, hypopygium in external view. 88. *D.* sp. 25 89. *D.* sp. 26. 90. *D.* sp. 27. 91. *D.* sp. 28. 92. *D.* sp. 29. 93. *D.* sp. 30. 94. *D.* sp. 31.. Scale bar= 125.



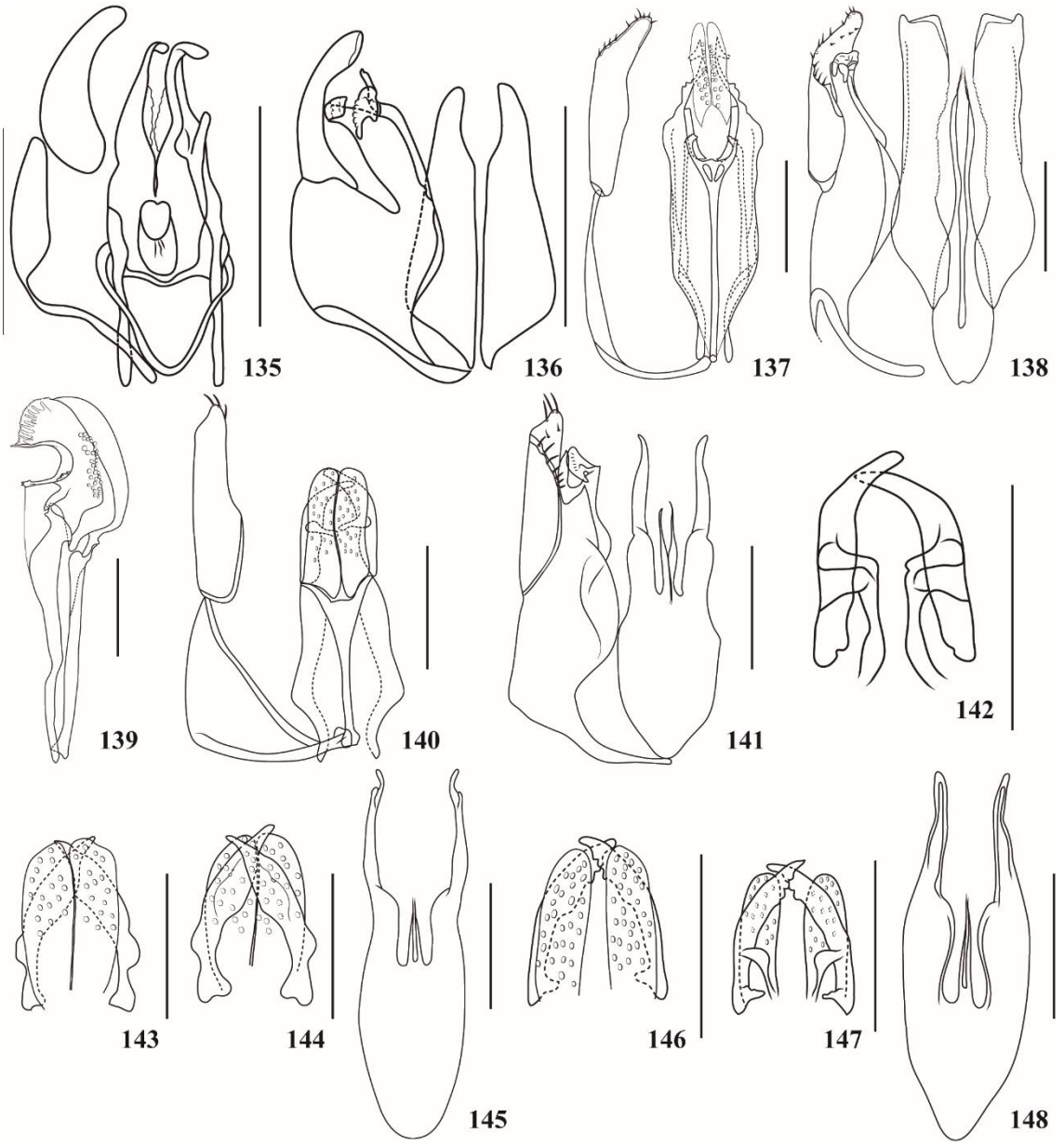
FIGURES 95–108. *Dissomphalus* spp., ♂, genitalia. 95–96. *D.* sp. 1. 95. Dorsal view. 96. Ventral view. 97–98. *D.* sp. 2. 97. Dorsal view. 98. Ventral view. 99–100. *D.* sp. 3. 99. Dorsal view. 100. Ventral view. 101–102. *D.* sp. 4. 101. Dorsal view. 102. Ventral view. 103–105. *D. geniculatus* 103. Dorsal view. 104. Ventral view. 105. Outer lobe of edeagal dorsal body, lateral view. 106–108. *D. intradentatus*. 106. Dorsal view. 107. Ventral view. 108. Outer lobe of aedeagal dorsal body, lateral view. Scale bar = 250 μm.



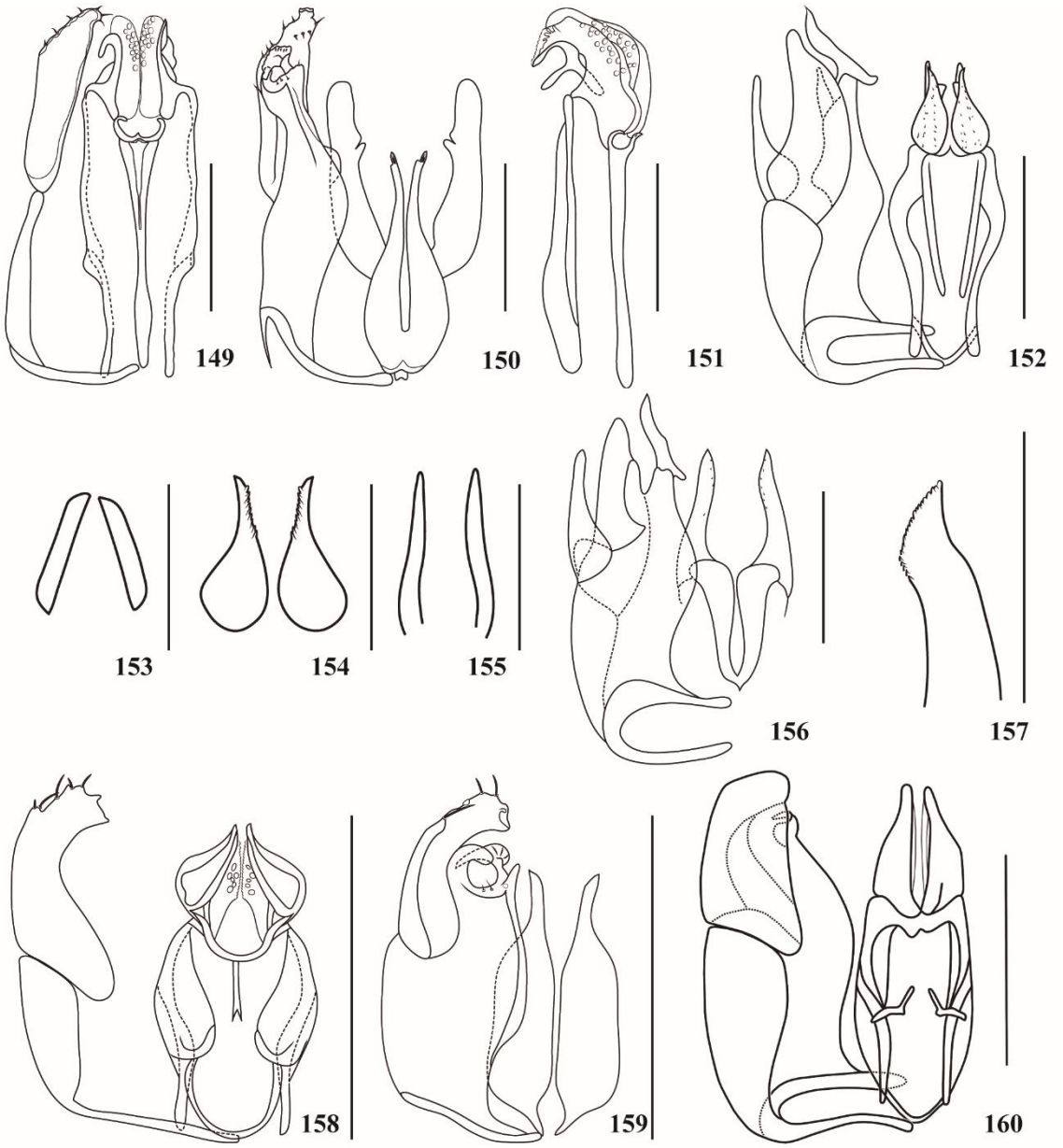
FIGURES 109–121. *Dissomphalus* spp., ♂, genitalia. 109–112. *D. piscicercus* 109. Dorsal view. 110. Ventral view. 111. Aedeagal ventral ramus.112. Outer lobe of aedeagal dorsal body, lateral view. 113–115. *D. strepsus* 113. Dorsal view. 114. Outer lobe of aedeagal dorsal body, dorsal view. 115. Ventral view.116–119. *D. angulatus* 116. Dorsal view. 117. Dorsal view. 118. Aedeagus, lateral view. 119. Paramere, dorsal view. 120–121. *D.* sp. 5. 120. Dorsal view. 121. Ventral view. Scale bar = 250 µm.



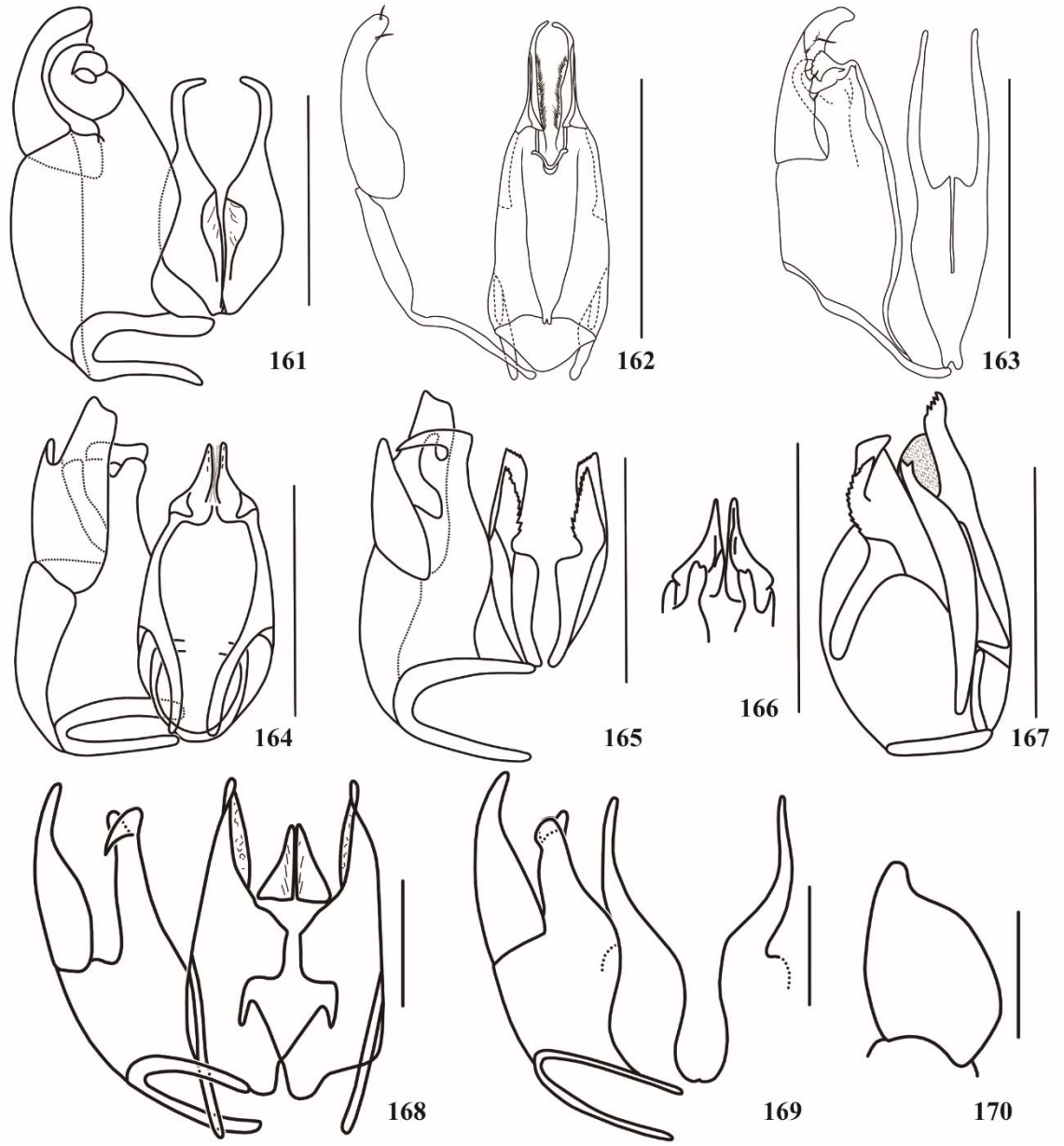
FIGURES 122–134. *Dissomphalus* spp., ♂, genitalia. 122–123. *D. sp. 6.* 122. Dorsal view. 123. Ventral view. 124–125. *D. sp. 7.* 124. Dorsal view. 125. Ventral view. 126–127. *D. cervoides* 126. Dorsal view. 127. Ventral view. 128–130. *D.* sp. 8. 128. Dorsal view. 129. Ventral view. 130. Aedeagus, lateral view. 131–132. *D. sp. 9.* 131. Dorsal view. 132. Ventral view. 133–134. *D.* sp. 10. 133. Dorsal view. 134. Ventral view. Scale bar = 250 μm.



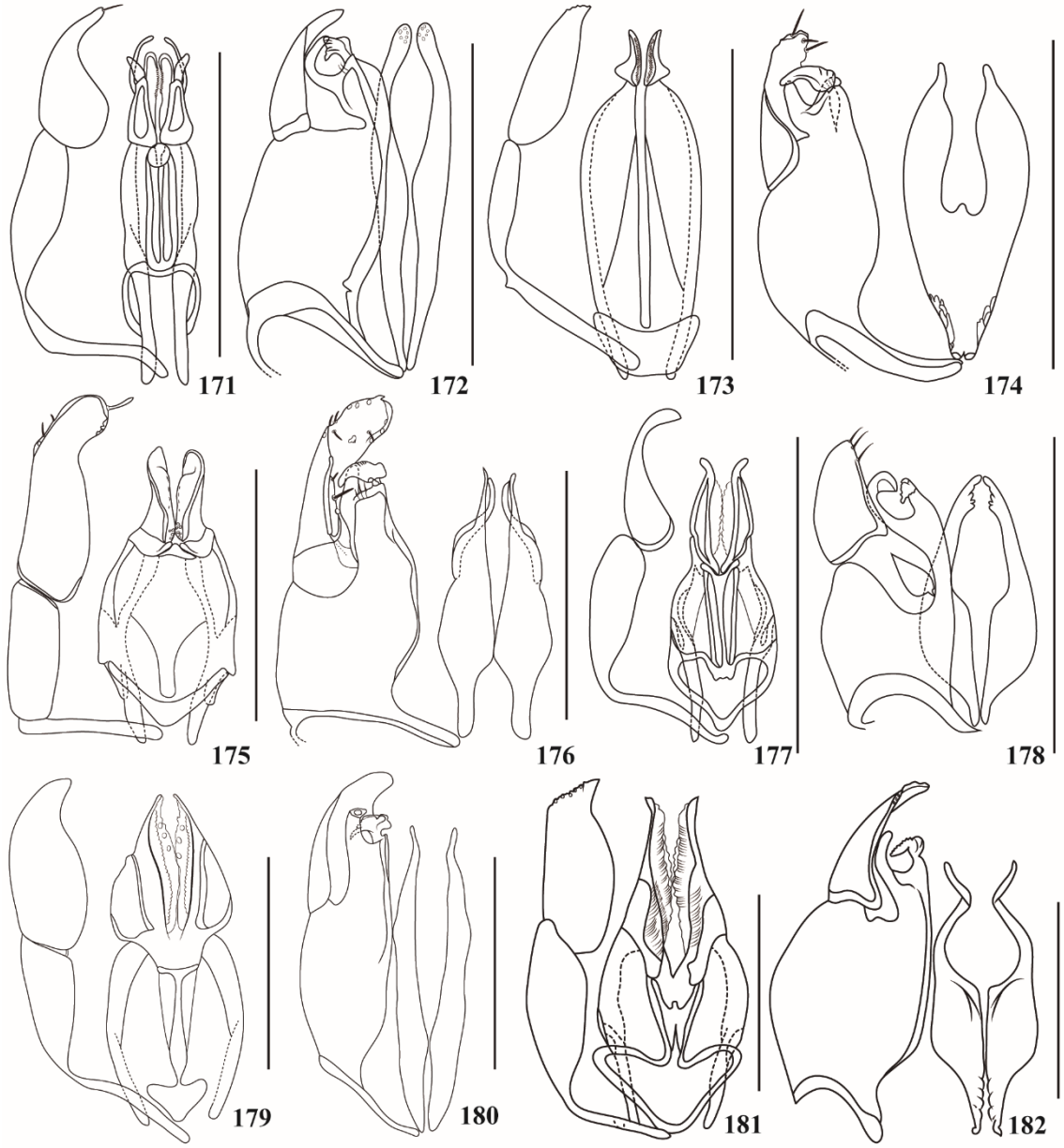
FIGURES 135–148. *Dissomphalus* spp., ♂, genitalia. 135–136. *D.* sp. 11. 135. Dorsal view. 136. Ventral view. 137–139. *D.* sp. 12. 137. Dorsal view. 138. Ventral view. 139. Aedeagus, lateral view. 140–148. *D.* sp. 13. 140. Dorsal view. 141. Ventral view. 142. Apical lobes of aedeagal dorsal body, ventral view. 143. Apical lobes of aedeagal dorsal body, dorsal view, var. 1; 144. Apical lobes of aedeagal dorsal body, ventral view, var. 1; 145. Aedeagal ventral ramus, var. 1; 146. Apical lobes of aedeagal dorsal body, dorsal view, var. 2; 147. Apical lobes of aedeagal dorsal body, ventral view, var. 2; 148. Aedeagal ventral ramus, var. 2. Scale bar = 250 µm.



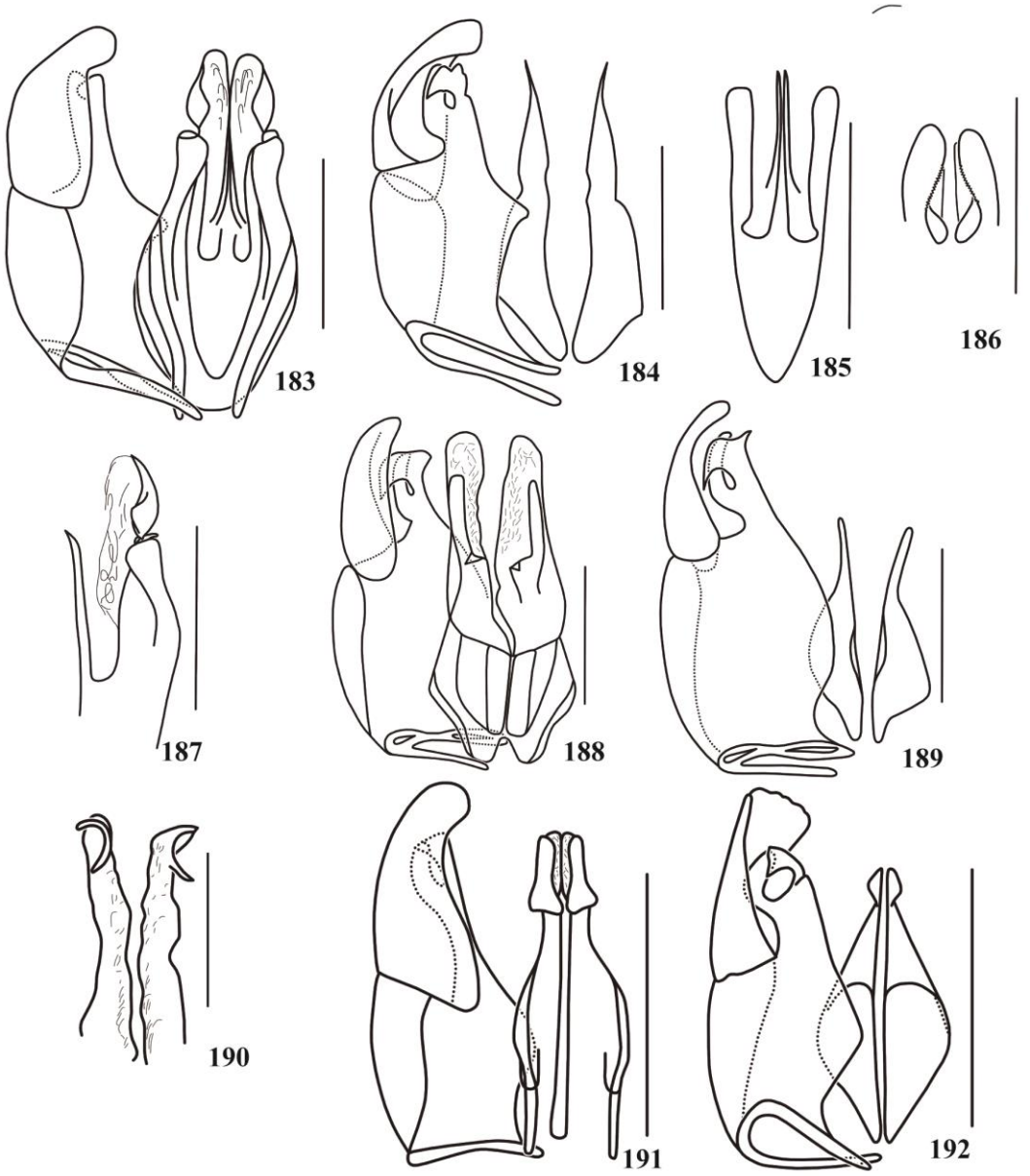
FIGURES 149–160. *Dissomphalus* spp., ♂, genitalia. 149–151. *D.* sp. 14. 149. Dorsal view. 150. Ventral view. 151. Aedeagus, lateral view. 152–157. *D. curvifoveatus* 152. Dorsal view. 153. Ventral lobes of aedeagal dorsal body, dorsal view. 154. Outer lobes of aedeagal dorsal body, dorsal view. 155. Dorsal lobes of aedeagal dorsal body, dorsal view 156. Ventral view. 157. Apex of aedeagal ventral ramus 158–159. *D.* sp. 15. 158. Dorsal view. 159. Ventral view. 160–161. *D. guttus* 160. Dorsal view. Scale bar = 250 µm for 149–151, 158–160 and 125 µm for 152–157.



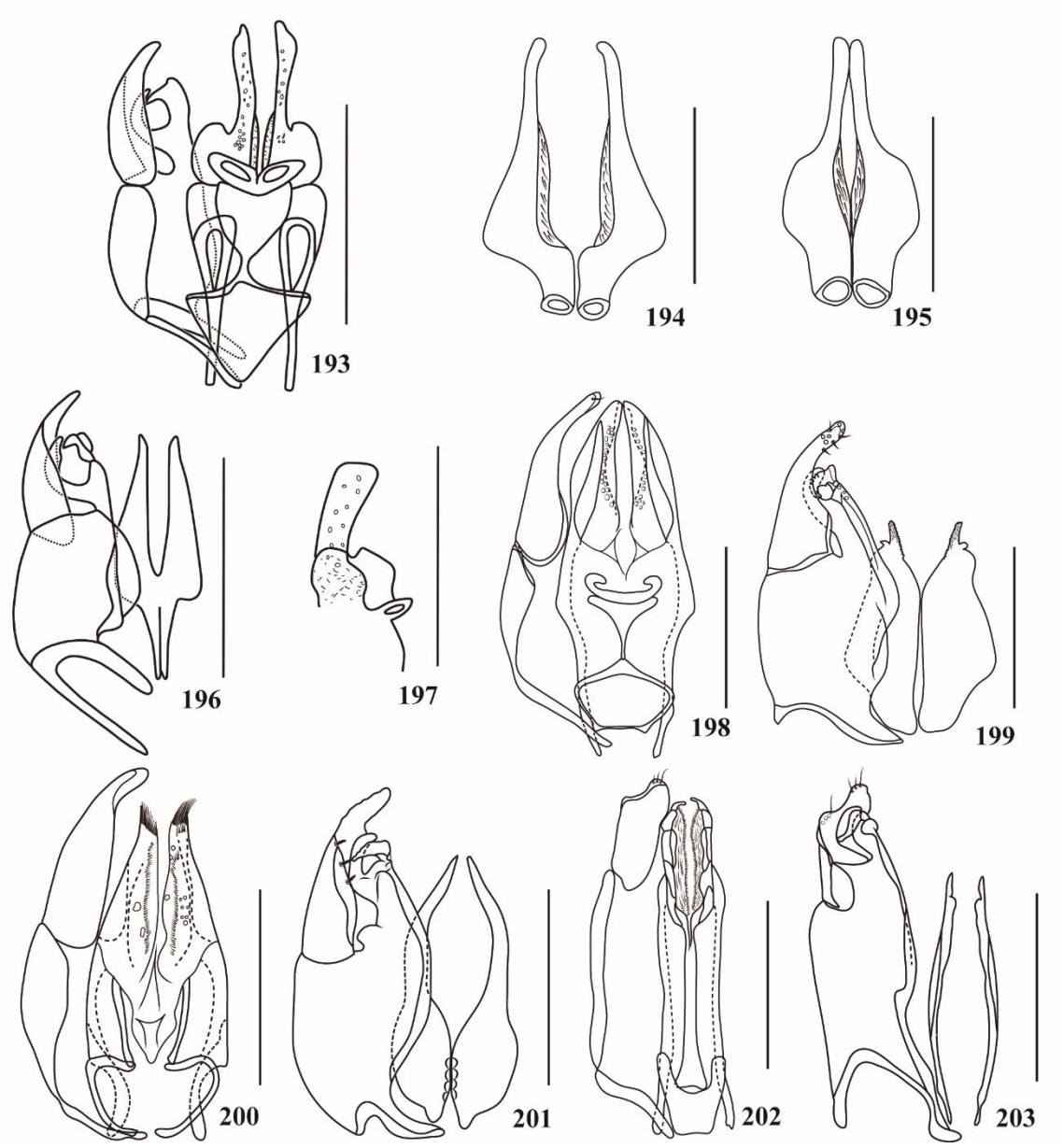
FIGURES 161–170. *Dissomphalus* spp., ♂, genitalia. 161. *D. guttus*, Ventral view. 162–163. ***D.* sp. 16** 162. Dorsal view. 163. Ventral view. 164–167. *D. bilobatus* 164. Dorsal view. 165. Ventral view. 166. Outer lobe of aedeagal dorsal body, ventral view. 167. Aedeagus, lateral view. 168–170. *D. rufipalpis* 168. Dorsal view. 169. Ventral view. 170. Paramere, dorsal view. Scale bar = 250 μm.



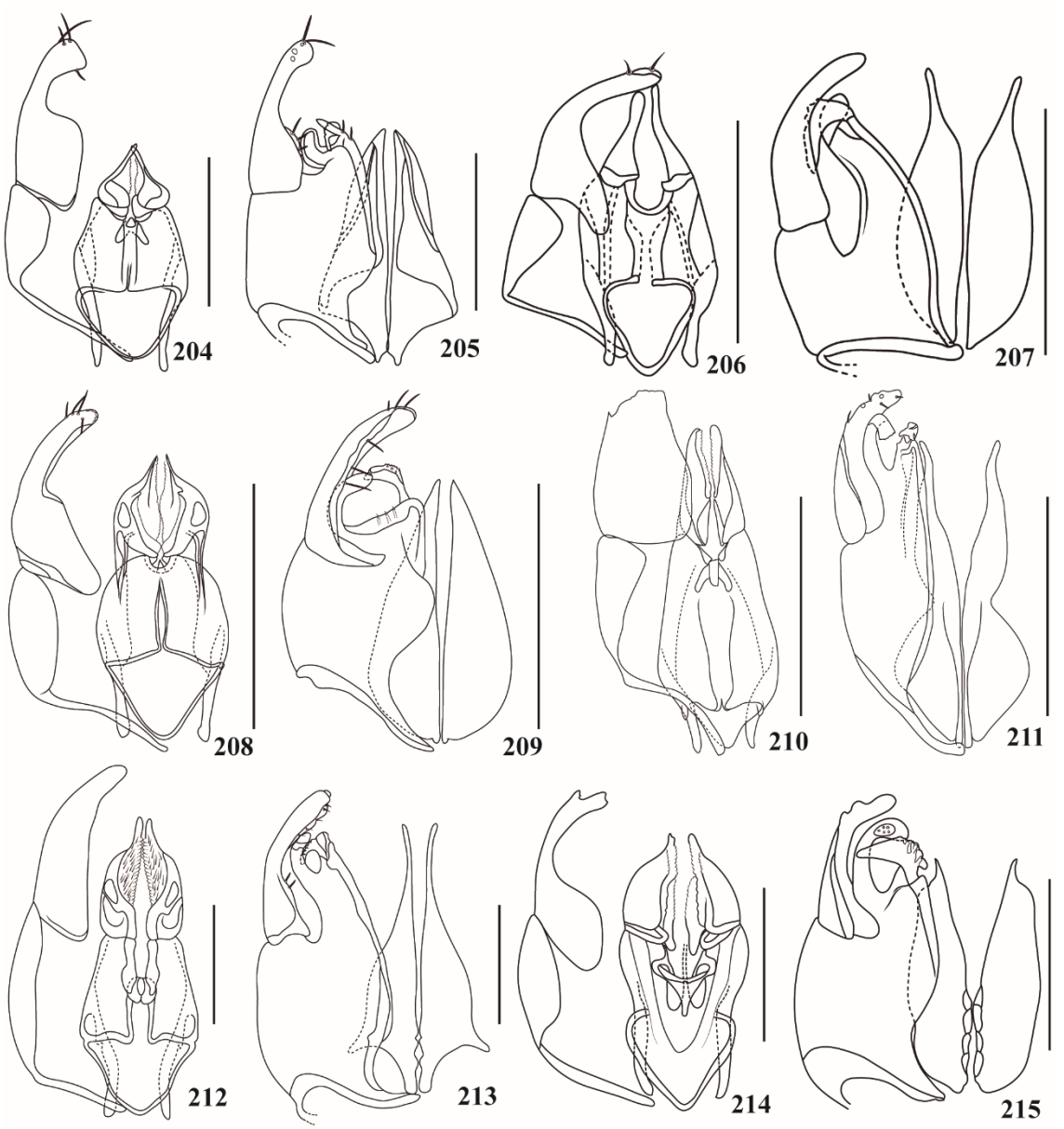
FIGURES 171–182. *Dissomphalus* spp., ♂, genitalia. 171–172. *D. sp. 17*. 171. Dorsal view. 172. Ventral view. 173–174. *D.* sp. 18. 173. Dorsal view. 174. Ventral view. 175–176. *D.* sp. 19. 175. Dorsal view. 176. Ventral view. 177–178. *D.* sp. 20. 177. Dorsal view. 178. Ventral view. 179–180. *D.* sp. 21. 179. Dorsal view. 180. Ventral view. 181–182. *D.* sp. 22. 181. Dorsal view. 182. Ventral view. Scale bar = 250 μm.



FIGURES 183–192. *Dissomphalus* spp., ♂, genitalia. 183–187. *D. unitus* 183. Dorsal view. 184. Ventral view. 185. Outer lobe of aedeagal dorsal body, dorsal view. 186. Inner lobe of aedeagal dorsal body, dorsal view. 187. Apical lobe of aedeagal dorsal body, dorsal view. 188–190. *D. vallensis* 188. Dorsal view. 189. Ventral view. 190. Outer lobe of apical lobes of Ventral view, 191–192. *D. rettenmeyeri* 191. Dorsal view. 192. Ventral view. Scale bar = 250 µm.



FIGURES 193–203. *Dissomphalus* spp., ♂, genitalia. 193–197. *D. personatus* 193. Dorsal view. 194–195. Outer lobe of apical lobes of aedeagal dorsal body; 196. Ventral view. 197. Outer lobe of apical lobes of aedeagal dorsal body, lateral view. 198–199. *D.* sp. 23. 198. Dorsal view. 199. Ventral view. 200–201. *D.* sp. 24. 200. Dorsal view. 201. Ventral view. 202–203. *D.* sp. 25. 202. Dorsal view. 203. Ventral view. Scale bar = 250 µm for 195–203 and 125 µm for 193–194.



FIGURES 204–215. *Dissomphalus* spp., ♂, genitalia. 204–205. *D.* sp. 26. 204. Dorsal view. 205. Ventral view. 206–207. *D. sp. 27.* 206. Dorsal view. 207. Ventral view. 208–209. *D.* sp. 28. 208. Dorsal view. 209. Ventral view. 210–211. *D.* sp. 29. 210. Dorsal view. 211. Ventral view. 212–213. *D.* sp. 30. 212. Dorsal view. 213. Ventral view. 214–215. *D.* sp. 31. 214. Dorsal view. 215. Ventral view. Scale bar= 125 µm for 204–207 and 250 µm, 208–215.

FIGURES 216. *Dissomphalus* spp., ♀. 216. *D*. sp. 2., lateral view. Scale bar=