



## **New Species of South African Dryinidae (Hymenoptera: Chrysidoidea)**

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## New species of South African Dryinidae (Hymenoptera: Chrysidoidea)

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### ABSTRACT

The following new species of Dryinidae (Hymenoptera: Chrysidoidea) are described from South Africa: *Aphelopus mostovskii*, *A. vernonensis*, *Anteon sanyatense*, *A. ngoyense*, *Dryinus daviesi*, *Gonatopus numenensis*. A checklist of Dryinidae known in KwaZulu-Natal, South Africa, is presented. New host records are made for *Gonatopus nearcticus*, *G. communis*, and *G. guigliae*.

**KEY WORDS:** Dryinidae, *Aphelopus*, *Anteon*, *Dryinus*, *Gonatopus*, Afrotropics, taxonomy, new species, checklist.

### INTRODUCTION

Drynidae (Hymenoptera: Chrysidoidea) are parasitoids of leafhoppers, planthoppers and treehoppers (Hemiptera: Auchenorrhyncha) (Guglielmino & Olmi 1997, 2006, 2007).

The systematics of South African dryinids has been studied by Olmi, who has presented a review of our past and present knowledge, listing 135 valid species in South Africa (Olmi 2006, 2007, 2008). The hosts are known only for 16 species. Regarding taxonomy, both sexes are known only in 48 of the 135 species, only females are known in 69 species and only males in 18 species.

In 2007 a small collection of dryinids was forwarded for identification from the Natal Museum, South Africa. The study of this material resulted in the discovery of the six new species described herein and gave the opportunity to write a checklist of dryinids known in KwaZulu-Natal (see Appendix). According to the checklist, 65 species of Dryinidae are known in KwaZulu-Natal. Six of them are new species and three are new records for South Africa. The total number of dryinid species of South Africa is now 144.

### MATERIAL AND METHODS

The descriptions follow the terminology used by Olmi (1984) and partly revised after Gauld and Bolton (1988), and Olmi (1994b, 1999). The measurements reported are relative, except for the total length (head to abdominal tip, without the antennae), which is expressed in millimetres.

In the descriptions POL is the distance between the inner edges of the two lateral ocelli; OL – distance between the inner edges of a lateral ocellus and the median ocellus; OOL – distance from the outer edge of a lateral ocellus to the compound eye; OPL – distance from the posterior edge of a lateral ocellus to the occipital carina; TL – distance from the posterior edge of an eye to the occipital carina.

In the figures of male genitalia the left half was removed.

The material studied in this paper is deposited in the following collections: American Entomological Institute, Gainesville, Florida, USA (AEIC); American Museum of Natural History, New York, USA (AMNH); The Natural History Museum, London, UK (BMNH); Canadian National Collection of Insects, Ottawa, Canada (CNCI); Florida

State Collection of Arthropods, Division of Plant Industry, Gainesville, FL, USA (FSCA); M. Olmi's collection, c/o Department of Plant Protection, University of Tuscia, Viterbo, Italy (MOLC); Museum of Zoology and Entomology, Lund University, Lund, Sweden (MZLU); Natal Museum, Pietermaritzburg, South Africa (NMSA); National Collection of Insects, Plant Protection Research Institute, Pretoria, South Africa (PPRI-NCI); Royal Alberta Museum, Edmonton, Alberta, Canada (RAMC); South African Museum, Cape Town, South Africa (SAMC); South African Sugar Association Experiment Station, Mount Edgecombe, South Africa (SASAES); The Bohart Museum of Entomology, University of California, Davis, CA, USA (UCDC); Department of Zoology and Entomology, University of KwaZulu-Natal, Pietermaritzburg, South Africa (UKZN).

#### TAXONOMY

Subfamily Aphelopinae R. Perkins, 1912

Genus *Aphelopus* Dalman, 1823

***Aphelopus mostovskii* sp. n.**

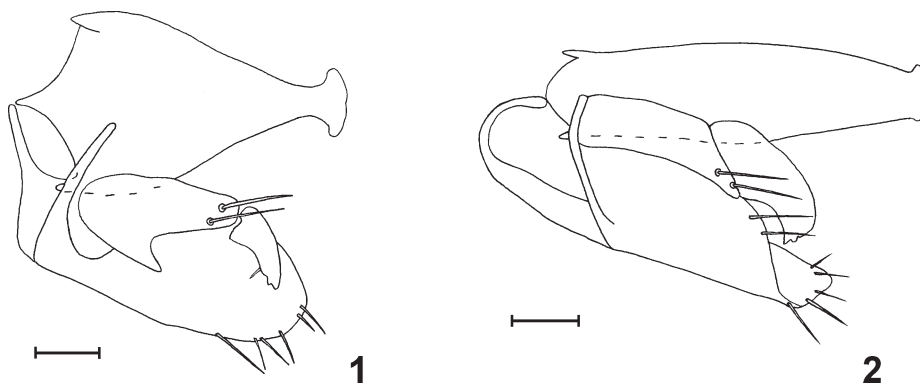
Fig. 1

Etymology: This species is named after Dr Mikhail Mostovski.

Description:

*Female.*

Fully winged; length 1.56–1.93 mm. Head black, with mandibles testaceous; antennae brown, with segments 1 and 2 testaceous; mesosoma black; gaster brown; fore legs testaceous; middle legs testaceous, with femora brown; hind legs brown, with coxae and trochanters testaceous. Antennae clavate; antennal segments in the proportions 5:4:4:4:4:4:4:4:4:6. Head dull, granulated; frontal line incomplete, not present in front of anterior ocellus; occipital carina complete; POL=5; OL=3; OOL=3; OPL=2; TL=3; greatest breadth of posterior ocelli as long as OPL. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (3:2). Occasionally notauli incomplete, reaching about 0.85–



Figs 1, 2. Genitalia: (1) *Aphelopus mostovskii* sp. n., male holotype, scale bar = 0.04 mm; (2) *Aphelopus incisus* Olmi, male holotype, scale bar = 0.05 mm.

0.90 length of scutum. Scutellum and metanotum shiny, slightly granulated. Propodeum reticulate rugose; posterior surface with two longitudinal keels; median area less rugose than anterior surface. Forewing hyaline, without dark transverse bands; stigmal vein regularly curved. Tibial spurs 1,1,2.

*Male.*

Fully winged; length 1.56–1.62 mm (holotype 1.62 mm). Head black, with mandibles testaceous; antennae brown; mesosoma and gaster black; legs brown. Antennae filiform; antennal segments in the proportions 5:4:4:4:4.5:5:4.5:4.5:7. Head dull, granulated; frontal line incomplete, not present in front of anterior ocellus; occipital carina complete; POL=5; OL=3; OOL=3; OPL=1.5; TL=3; greatest breadth of posterior ocelli slightly longer than OPL (2:1.5). Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (3:2). Scutellum and metanotum shiny, without sculpture. Propodeum reticulate rugose; posterior surface with two longitudinal keels and median area shiny, granulated. Forewing hyaline, without dark transverse bands; stigmal vein regularly curved. Male genitalia (Fig. 1) provided of a lateral basal process. Tibial spurs 1,1,2.

Holotype: ♂ SOUTH AFRICA: *KwaZulu-Natal*: Royal Natal National Park, Gudu Forest, 28°40.90'S: 28°55.78'E, alt. 1680–1730 m, 18.xi.2006–27.ii.2007, Malaise trap in indigenous *Podocarpus* forest, M. Mostovski; "Aphelopus mostovskii sp. n. M. Olmi det. 2008, ♂" [red label] (NMSA).

Paratypes: *KwaZulu-Natal*: 1 ♀ same data as holotype (NMSA); 1♂ Royal Natal National Park, Mahai Camp, 28°41.27'S:28°56.8'E, alt. 1450 m, 24.xi–6.xii.2005, yellow pan trap in disturbed *Podocarpus* forest, M. Mostovski (MOLC); 2 ♀ 1♂ Cathedral Peak Nat. Res., Rainbow Gorge, 28°57.60'S:29°13.61'E, alt. 1480 m, 18.xi.2006–26.ii.2007, Malaise trap in indigenous *Podocarpus* forest, M. Mostovski (NMSA); 1 ♀ same label data (MOLC).

Hosts: Unknown.

Comparison: *A. mostovskii* is similar to *A. incisus* Olmi, 1984, in the complete notauli, but the basivolsella of the male genitalia has a lateral basal process (Fig. 1), whereas in *A. incisus* this process is absent (Fig. 2). The female of *A. incisus* is unknown.

**Aphelopus vernonensis sp. n.**

Fig. 3

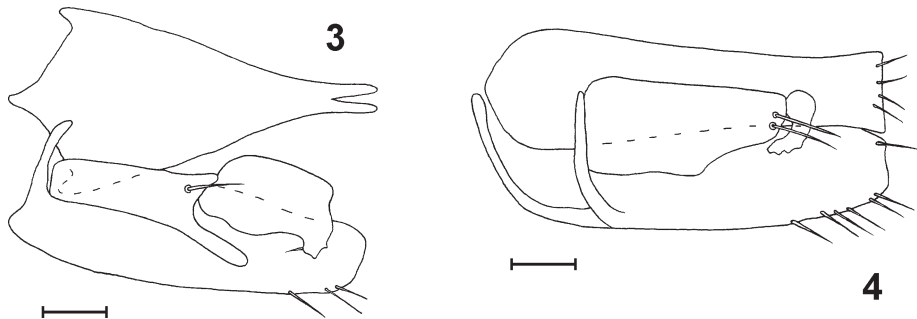
Etymology: This species is named after the type locality, Vernon Crookes Nature Reserve.

Description:

*Male.*

Fully winged; length 1.56 mm. Head black, with mandibles and clypeus testaceous; antennae brown, with segment 1 testaceous; mesosoma black; gaster brown; legs testaceous. Antennae filiform; antennal segments in the proportions 3:3.5:4:4:4.5:5:5:8. Head dull, granulated; frontal line present only in anterior half of face; occipital carina complete; POL=6; OL=3; OOL=3; OPL=2; TL=2; greatest diameter of posterior ocelli as long as OPL. Scutum dull, granulated. Notauli incomplete, reaching about 0.3 length of scutum. Scutellum dull, granulated. Metanotum shiny, without sculpture. Propodeum reticulate rugose. Forewing hyaline, without dark transverse bands; stigmal vein regularly curved. Basivolsella (Fig. 3) not having a basal lateral process, but with a distal lateral process. Tibial spurs 1,1,2.

*Female.* Unknown.



Figs 3, 4. Genitalia: (3) *Aphelopus vernonensis* sp. n., male holotype, scale bar = 0.04 mm; (4) *Aphelopus wittei* Benoit, male from Yemen, Sana'a, scale bar = 0.06 mm.

Holotype: ♂ SOUTH AFRICA: *KwaZulu-Natal*: Vernon Crookes Nat. Res., 30°17.4'S:30°36.9'E, alt. 250 m, 24.i–10.v.2006, Malaise trap in closed-canopy indigenous forest, M. Mostovski; "*Aphelopus vernonensis* sp. n. M. Olmi det. 2008, ♂" [red label] (NMSA).

Hosts: Unknown.

Comparison: *A. vernonensis* is similar to *A. wittei* Benoit, 1951 (see Benoit 1951*b*), but the basivolsella of the male genitalia has a lateral distal process (Fig. 3), whereas in *A. wittei* this process is absent (Fig. 4).

#### Subfamily Antninae R. Perkins, 1912

Genus *Anteon* Jurine, 1807

#### ***Anteon sanyatense* sp. n.**

Fig. 5

Etymology: This species is named after the type locality, Sanyati Farm.

Description:

*Male*.

Fully winged; length 2.56 mm. Head black, with mandibles testaceous; antennae brown, with segments 1, 2 testaceous; mesosoma and gaster black; legs testaceous, with hind coxae partly black and clubs of hind femora brown. Antennae filiform; antennal segments in the proportions 11:6:7:6:5.5:6:6:6:8. Head dull, granulated and strongly reticulate rugose; frontal line complete; occipital carina complete; POL=8; OL=4; OOL=5; OPL=4; TL=3; greatest breadth of posterior ocelli as long as TL. Scutum dull, granulated and irregularly rugose. Notauli hardly visible, incomplete, reaching about 0.30 length of scutum. Scutellum and metanotum shiny, smooth, punctate, without sculpture among punctures. Propodeum with a strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with 2 longitudinal keels and median area sculptured by areolae smaller than those of lateral areas (except large areolae along margins). Forewing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2.5:9). Parameres (Fig. 5) without a distal inner process and with a proximal membranous process. Tibial spurs 1,1,2.

*Female*: Unknown.

Holotype: ♂ SOUTH AFRICA: *KwaZulu-Natal*: Louwsberg, Sanyati Nature Farm, 27°34'S:31°17.9'E, alt. 1090 m, 1–24.vi.2006, Malaise trap, M. Mostovski; "*Anteon sanyatense* sp. n. M. Olmi det. 2008, ♂" [red

label] (NMSA). Note: The specimen was collected in the primarily indigenous riverine bush during the dry season. The habitat information has been detailed by Grichanov and Mostovski (2008).

Hosts: Unknown.

Comparison: The male of *A. sanyatense* is similar to males of *A. abruptum* Olmi, 1984, *A. zairense* Benoit, 1951 (see Benoit 1951c), and *A. inflatrix* Benoit, 1951 (see Benoit 1951a), but the scutum of *A. sanyatense* is completely granulated and rugose, whereas in the other three species it is at least partly punctate and without sculpture among the punctures.

### *Anteon ngoyense* sp. n.

Fig. 6

Etymology: This species is named after the type locality, Ngoye Forest.

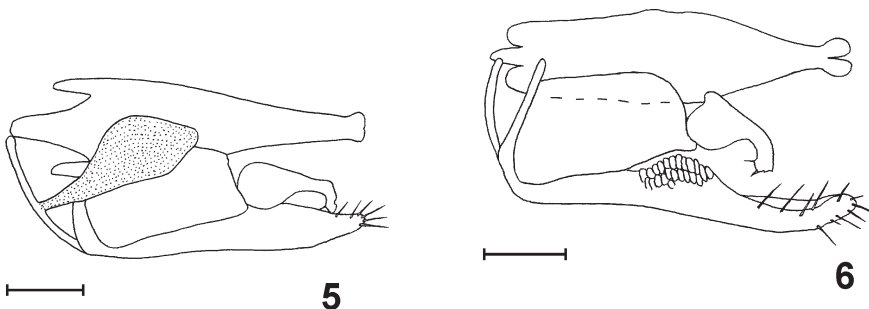
Description:

*Male.*

Fully winged; length 1.87 mm. Head black, with mandibles testaceous; antennae brown, with segments 1 and 2 testaceous; mesosoma black; gaster brown; legs testaceous, with coxae, femora and tibiae of hind legs partly brown. Antennae filiform; antennal segments in the proportions 9:4:3.5:4:4:4:4:4:6. Head dull, completely strongly granulated, and slightly rugose; frontal line complete; face with two lateral keels along orbits and directed towards antennal toruli; occipital carina complete; POL=6; OL=3; OOL=4; OPL=2; TL=4; greatest diameter of posterior ocelli as long as OL. Scutum, scutellum and metanotum shiny, finely punctate, without sculpture among punctures. Notauli very short, reaching about 0.25 length of scutum. Propodeum with a strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose, dull; posterior surface dull, reticulate rugose, without longitudinal keels; central region of posterior surface with areolae smaller than those of dorsal region. Forewing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:6). Parameres (Fig. 6) without a distal inner pointed process, with an inner proximal lobe showing a mosaic pattern and not covered with papillae. Tibial spurs 1,1,2.

*Female.* Unknown.

Holotype: ♂ SOUTH AFRICA: *KwaZulu-Natal*: Ngoye Forest [28°50'S:31°44'E], i-iv.2006, Malaise trap in closed-canopy indigenous forest, G. Davies; "*Anteon ngoyense* sp. n. M. Olmi det. 2008, ♂" [red label] (NMSA).



Figs 5, 6. Genitalia: (5) *Anteon sanyatense* sp. n., male holotype, scale bar = 0.07 mm; (6) *Anteon ngoyense* sp. n., male holotype, scale bar = 0.06 mm.

Hosts: Unknown.

Comparison: The male of *A. ngoyense* is similar to that of *A. kwazuluense* Olmi, 2007, but the scutum is punctate and without sculpture among the punctures, whereas in *A. kwazuluense* it is granulated and partly rugose.

Subfamily Dryininae Haliday, 1833

Genus *Dryinus* Latreille, 1804

***Dryinus daviesi* sp. n.**

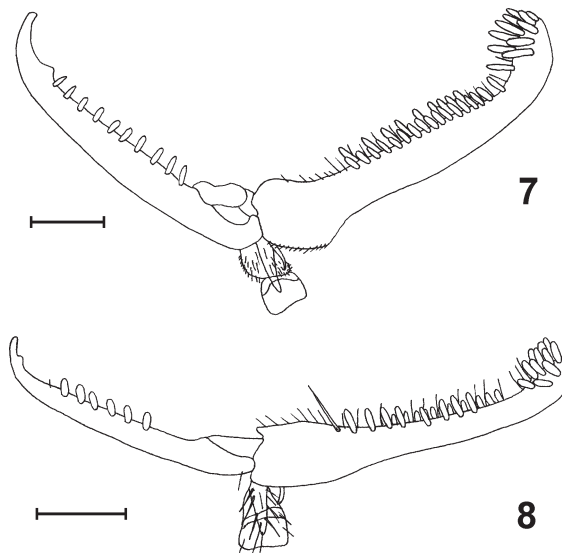
Fig. 7

Etymology: This species is named after Mr Greg Davies.

Description:

*Female.*

Fully winged; length 4.06 mm. Head black, with mandibles testaceous; clypeus black, with lateral regions testaceous; antennae brown-testaceous, with segment 10 testaceous; mesosoma and gaster black; legs brown, with coxae and clubs of femora black. Antennae clavate; antennal segments in the proportions 13:6:26:12:9:8:6.5:6:5.5:8; rhinaria present on segments 5–10. Head dull, granulated, with a few longitudinal and irregular keels on face; frontal line complete; occipital carina complete; POL=3; OL=3; OOL=9; OPL=1; TL=3; greatest breadth of posterior ocelli longer than OPL (2:1); posterior ocelli situated on virtual straight line joining the posterior edges of the eyes; posterior margin of vertex excavated. Pronotum shiny, slightly granulated, with numerous slight striae on lateral regions; pronotum crossed by a strong posterior transverse furrow and a slight anterior transverse impression; posterior collar short; pronotal tubercles not reaching tegulae. Scutum dull, strongly reticulate rugose, with anterior third of median region shiny,



Figs 7, 8. Chelae: (7) *Dryinus daviesi* sp. n., female holotype; (8) *Gonatopus ntumenensis* sp. n., female holotype. Scale bars = 0.14 mm.

smooth, sculptured by few slight irregular striae. Notauli incomplete, reaching about 0.6 length of scutum. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose, without longitudinal or transverse keels, with dorsal surface about as long as inclined posterior surface. Forewing with three dark transverse bands; distal part of stigmal vein longer than proximal part (13:6). Fore tarsal segments in the proportions 17:3:8:18:28. Segment 3 of fore tarsus produced into a hook. Enlarged claw (Fig. 7) with a large subapical tooth and a row of 10 lamellae. Segment 5 of fore tarsus (Fig. 7) with two rows of 9+17 lamellae; distal apex with a group of about 18 lamellae. Tibial spurs 1,1,2.

*Male.* Unknown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Ngoye Forest [28°50'S:31°44'E], i-iv.2006, Malaise trap in closed-canopy indigenous forest, G. Davies; "*Dryinus daviesi* sp. n. M. Olmi det. 2008, ♀" [red label] (NMSA).

Hosts: Unknown.

Comparison: *D. daviesi* belongs to *Dryinus erraticus* group. The female of this new species is similar to that of *D. orophilus* (Benoit, 1950), but the body is more robust and the posterior collar of the pronotum is completely black (testaceous or reddish in *D. orophilus*).

Subfamily Gonatopodinae Kieffer in Kieffer & Marshall, 1906

Genus *Gonatopus* Ljungh, 1810

***Gonatopus ntumenensis* sp. n.**

Fig. 8

**Etymology:** This species is named after the type locality, near Ntumeni Nature Reserve.

**Description:**

*Female.*

Apterous; length 3.37 mm. Head brown, with mandibles, anterior margin of face, malar space, clypeus and a short median longitudinal stripe near clypeus testaceous; antennae brown, with segment 1 testaceous and segment 10 whitish; prothorax testaceous-brown; scutum testaceous, with anterior third dark; rest of mesosoma brown-testaceous and partly brown; gaster brown; legs brown, with part of coxae, trochanters, articulations and tarsi testaceous or testaceous-brown. Antennae clavate; antennal segments in the proportions 9:5:10:5:4:4:4:4:9. Head excavated, dull, granulated; frontal line complete; ocellar triangle divided into two halves by median longitudinal keel; occipital carina incomplete, shortly present behind the posterior ocelli; POL=1; OL=3; OOL=6.5. Palpal ratio 4:2. Pronotum hairless, crossed by a strong transverse impression, shiny, smooth and without sculpture. Scutum sculptured by many longitudinal striae, laterally without pointed prominences. Scutellum shiny, smooth, flat. Metanotum short, dull, sculptured by many transverse striae, small hollow behind scutellum; sides of metanotum rounded, not laterally protruding. Metathorax+propodeum dull, with disc rugose and anterior surface sculptured by numerous irregular striae; anterior surface of metathorax+propodeum with median longitudinal furrow; posterior surface of propodeum, mesopleura and metapleura transversely striate. Meso-metapleural suture obsolete. Fore tarsal segments in the proportions 13:3:5:14:22. Enlarged claw (Fig. 11) with large subapical



tooth and a row of 6 lamellae. Segment 5 of fore tarsus (Fig. 8) with two rows of 12 and 8 lamellae; distal apex of segment 5 with a group of approx. 13 lamellae. Tibial spurs 1,0,1.

*Male.* Unknown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Eshowe, nr Ntumeni Nat. Res., 28°52.08'S:31°22.41'E, alt. 680 m, 26–28.x.2007, yellow pan trap, V. Kolyada & M. Mostovski; "*Gonatopus ntumenensis* sp. n. M. Olmi det. 2008, ♀" [red label] (NMSA). Note: The specimen was collected on a slope of a ravine with disturbed indigenous vegetation and a stream at the bottom; the ravine is surrounded by sugar-cane fields and *Eucalyptus* plantations.

Hosts: Unknown.

Comparison: *G. ntumenensis* belongs to the *G. pilosoides* group. The female of *G. ntumenensis* is similar to those of *G. festivus* Olmi, 1994 (see Olmi 1994a), *G. ruens* (Olmi, 1984), and *G. amoenus* Olmi, 1994 (see Olmi 1994a). The main differences are as follows: in *G. ntumenensis*, disc and anterior surface of metathorax+propodeum rugose and sculptured by irregular striae; head with OL about three times as long as POL; ocellar triangle divided into two halves by a median longitudinal keel; in the other three species, disc and anterior surface of metathorax+propodeum smooth, without sculpture, or very slightly granulated; head with OL twice or less than twice as long as POL; ocellar triangle without a median longitudinal keel.

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## APPENDIX

Checklist of Dryinidae recorded from KwaZulu-Natal, South Africa. Asterisk indicates that specimens are known only from this province. Locality data are given in an abbreviated form, with full information being available elsewhere (Olmí 2006, 2007, 2008, this paper). Provinces abbreviated as follows: EC – Eastern Cape, FS – Free State, GP – Gauteng, LI – Limpopo, MPU – Mpumalanga, WC – Western Cape.

## Subfamily Aphelopinae

Genus *Aphelopus* Dalman, 1823: 8.

Type-species: *Dryinus atratus* Dalman, 1823, by subsequent designation (Westwood 1840).

1. *Aphelopus mediocarinatus* (Benoit, 1951c: 23), ♀ ♂

Distribution: Pietermaritzburg (AEIC); Van Reenen (BMNH); Cathedral Peak (UCDC); Cathedral Peak Nat. Reserve, Rainbow Gorge (NMSA); Eshowe, nr Ntumeni Nat. Res. [28°52.08'S:31°22.41'E] (NMSA); Royal Natal Nat. Res., Mahai Camp (NMSA). Also in EC, GP, LI, MPU, and WC.

2. *Aphelopus mostovskii*\* sp. n., ♀ ♂

Distribution: Royal Natal Nat. Res., Gudu Forest (NMSA); Royal Natal Nat. Res., Mahai Camp (MOLC); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA, MOLC).

3. *Aphelopus vermonensis*\* sp. n., ♂

Distribution: Vernon Crookes Nat. Res. (NMSA).

4. *Aphelopus wittei* Benoit, 1951b: 16, ♀ ♂

Distribution: Giant's Castle Game Reserve (FSCA); Umlalazi Nat. Res., 1.5 km E of Mtunzini (RAMC); 75 km SW of Estcourt, Cathedral Peaks Forest Station (CNCI); Cathedral Peak area, Tryme Hill (SAMC); Cathedral Peak area, Tarn Hill (SAMC); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA); Sani Pass [29°36.18'S:29°20.37'E] (NMSA); Pietermaritzburg, Ferncliff Nat. Res. [29°33'S:30°20'E] (NMSA); Pietermaritzburg, Hilton [29°32'30"S:30°18'18"E] (NMSA); Pietermaritzburg, Winterskloof [29°34'53.88"S:30°17'40.17"E] (NMSA); Ramsgate, Butterfly Sanctuary [30°53.3'S:30°20.4'E] (NMSA); Royal Natal Nat. Res., Gudu Forest (NMSA); Eshowe, nr Ntumeni Nat. Res. (NMSA); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA). Also in EC, MPU, and WC.

## Subfamily Conganteoninae

Genus *Conganteon* Benoit, 1951b: 11.

Type-species: *Conganteon vulcanicum* Benoit, 1951b, by original designation.

5. *Conganteon kolyadai* Olmi, 2007: 201, ♀ ♂

Distribution: Karkloof Nat. Res. [29°19.1'S:30°15.5'E] (NMSA, MOLC); Ferncliff Nat. Res. (NMSA); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA, MOLC); Eshowe, nr Ntumeni Nat. Res. (NMSA); La Mercy [29°36'S:31°06'E] (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA); Ngoye Forest (NMSA); Pietermaritzburg, Winterskloof (NMSA). Also in EC and FS.

6. *Conganteon townesi*\* Olmi, 1984: 100, ♀ ♂

Distribution: Pietermaritzburg (AEIC, AMNH); Pietermaritzburg, Hilton [29°32'30"S:30°18'18"E] (NMSA).

## Subfamily Anteoninae

Genus *Deinodryinus* Perkins, 1907: 45.

= *Prioranteon* Olmi, 1984: 589 (syn. established by Olmi 2007).

Type-species: *Deinodryinus paradoxus* Perkins, 1907, by subsequent designation (Muesebeck & Walkley 1951).

7. *Deinodryinus richardsi*\* (Olmi, 1984: 594), ♀

Distribution: Van Reenen (BMNH).

8. *Deinodryinus umtamvunensis*\* Olmi, 2007: 207, ♂  
 Distribution: Umtamvuna Nat. Res. (SAMC).  
 Genus *Anteon* Jurine, 1807: 302.  
 Type-species: *Anteon jurineanum* Latreille, 1809, by monotypy.
9. *Anteon abruptum*\* Olmi, 1984: 404, ♂  
 Distribution: Pietermaritzburg (AEIC); Pietermaritzburg, Hilton (NMSA); Hluhluwe Game Reserve (AEIC, AMNH); Ramsgate, Butterfly Sanctuary (NMSA).
10. *Anteon cautum*\* Olmi, 1994c: 5, ♂  
 Distribution: Karkloof, 29°19.1'S:30°15.5'E, 1325 m, 28.ix–3.x.2005, YPT, M. Mostovski coll. (NMSA, MOLC). This is a new record for South Africa.
11. *Anteon danielssoni*\* Olmi, 1998b: 50, ♂  
 Distribution: 17 km NE of Empangeni, Nseleni River (MZLU).
12. *Anteon fiorii* Olmi, 1984: 362, ♀  
 Distribution: Hluhluwe Groundcamp (RAMC); Durban (AMNH); Cedara (PPRI-NCI); Ferncliff Nat. Res. (NMSA); Cumberland Nat. Res. [29°30.8'S:30°30.3'E] (NMSA); Pietermaritzburg, Hilton (NMSA); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA). Also in EC, GP, Li, and MPU.
13. *Anteon fisheri* Olmi, 2003: 24, ♂  
 Distribution: Karkloof [29°19.1'S:30°15.5'E] (NMSA); Royal Natal Nat. Res., Mahai Camp (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA). Also in WC.
14. *Anteon gutturnium* (Benoit, 1951a: 162), ♀ ♂  
 Distribution: Hluhluwe Game Reserve (AEIC, AMNH); Royal Natal Nat. Res., Gudu Forest (NMSA). Also in EC, FS, MPU, and WC.
15. *Anteon inflatrix* Benoit, 1951a: 161, ♀ ♂  
 Distribution: Royal Natal National Park, Butterfly Ridge (NMSA); Royal Natal Nat. Res., Mahai Camp (NMSA); Eshowe (AMNH, NMSA, MOLC); Eshowe, nr Ntumeni Nat. Res. (NMSA); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA). Also in EC and WC.
16. *Anteon kawandanum* Olmi, 1984: 374, ♀ ♂  
 Distribution: Otobotini (PPRI-NCI).
17. *Anteon kivuanum* (Benoit, 1951b: 13), ♀ ♂  
 Distribution: Pietermaritzburg (AEIC, AMNH); Pietermaritzburg, Hilton (NMSA); Pietermaritzburg, Winterskloof [29°34'53.88"S:30°17'40.17"E] (NMSA); 1.5 km E Mtunzini, Umlalazi Nat. Res. (RAMC); Cedara (PPRI-NCI); Royal Natal Nat. Res., Gudu Forest (NMSA). Also in EC, Li, MPU, and WC.
18. *Anteon kwazuluense*\* Olmi, 2007: 208, ♂  
 Distribution: Queen Elizabeth Park (NMSA); Royal Natal Nat. Res. (NMSA); Ramsgate, Butterfly Sanctuary (NMSA, MOLC); Pietermaritzburg, Hilton (NMSA); Eshowe, nr Ntumeni Nat. Res. (NMSA); La Mercy [29°36'S:31°06'E] (NMSA); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA, MOLC).
19. *Anteon medleri* Olmi, 1984: 395, ♀ ♂  
 Distribution: 10 km SE Pietermaritzburg, Ukulinga (UKZN).
20. *Anteon natalense* Olmi, 1984: 388, ♀  
 Distribution: Van Reenen (BMNH).
21. *Anteon ngoyense*\* sp. n., ♂  
 Distribution: Ngoye Forest (NMSA).
22. *Anteon sanyatense*\* sp. n., ♂  
 Distribution: Louwsberg, Sanyati Nature Farm (NMSA).
23. *Anteon striatum*\* Olmi, 2005: 233, ♂  
 Distribution: Karkloof, 29°19.1'S:30°15.5'E, 1325 m, 25.vii–25.ix.2005, Malaise trap, M. Mostovski coll. (NMSA). This is a new record for South Africa.
24. *Anteon terminale* Olmi, 2007: 210, ♂  
 Distribution: Ramsgate, Butterfly Sanctuary [30°53.3'S:30°20.4'E] (NMSA).

25. *Anteon townesi* Olmi, 1984: 379, ♀

Distribution: Royal Natal National Park (AEIC); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA); La Mercy [29°36'S:31°06'E] (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA). Also in EC and WC.

26. *Anteon traorei*\* Olmi, 1995: 133, ♀

Distribution: Pietermaritzburg, Hilton [29°32'30"S:30°18'18"E], garden, 27.i–16.ii.2004, Malaise trap, M. Mostovski coll. (NMSA); Umtamvuna Nat. Res. (SAMC). This is a new record for South Africa.

27. *Anteon ugandanum* Olmi, 1984: 372, ♀ ♂

Distribution: Van Reenen (BMNH); Riverview (PPRI-NCI); Ferncliff Nat. Res. (NMSA); Cumberland Nat. Res. (NMSA); Royal Natal Nat. Res. (NMSA); Ramsgate, Butterfly Sanctuary (NMSA); Umtamvuna Nat. Res. (SAMC); Eshowe, nr Ntumeni Nat. Res. (NMSA); La Mercy [29°36'S:31°06'E] (NMSA, MOLC). Also in GP and Li.

28. *Anteon urbani* Olmi, 2006: 5, ♀

Distribution: Pietermaritzburg, Hilton [29°32'30"S:30°18'18"E] (NMSA). Also in GP.

29. *Anteon xericum* Olmi & Van Harten, 2006: 315, ♀ ♂

Distribution: Umtamvuna Nat. Res. (SAMC). Also in GP, Li, and MPU.

30. *Anteon zairense* Benoit, 1951c: 21, ♀ ♂

Distribution: Ubombo, Lake Sibaya (RAMC); 75 km WSW Estcourt, Cathedral Peaks Forest Station (CNCI); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA); Ramsgate, Butterfly Sanctuary [30°53.3'S:30°20.4'E] (NMSA); Karkloof (NMSA); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA); Royal Natal Nat. Res., Gudu Forest (NMSA). Also in EC, MPU and WC.

#### Subfamily Bocchinae

Genus *Bocchus* Ashmead, 1893: 91.

Type-species: *Bocchus flavicollis* Ashmead, 1893, by original designation.

31. *Bocchus botswanensis* Olmi, 1991: 234, ♀ ♂

Distribution: Umlalazi Nat. Res., 1.5 km E of Mtunzini (RAMC); Kosi Bay (PPRI-NCI); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA). Also in Li.

32. *Bocchus whiteleyi*\* Olmi, 2007: 211, ♂

Distribution: Ramsgate, Butterfly Sanctuary [30°53.3'S:30°20.4'E] (NMSA, MOLC).

#### Subfamily Dryininae

Genus *Thaumatodryinus* Perkins, 1905: 58.

Type-species: *Thaumatodryinus koebelei* Perkins, 1905, by original designation.

33. *Thaumatodryinus afer*\* Olmi, 1998a: 55, ♀

Distribution: Umlalazi Nat. Res., 1.5 km E of Mtunzini (RAMC).

Genus *Dryinus* Latreille, 1804: 176.

Type-species: *Dryinus formicarius* Latreille, 1804, by subsequent monotypy (Latreille 1805).

34. *Dryinus ampuliciformis* (Turner, 1928: 148), ♀ ♂

Distribution: Ithala Game Reserve, Craig Adam Dam (UKZN); Umtentweni (BMNH); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA). Also in EC and Li.

35. *Dryinus daviesi*\* sp. n., ♀

Distribution: Ngoye Forest (NMSA).

36. *Dryinus deceptor* (Turner, 1928: 147), ♀ ♂

Distribution: La Mercy [29°36'S:31°06'E] (NMSA). Also in EC.

37. *Dryinus erraticus* (Turner, 1928: 149), ♀ ♂

Distribution: Mt Edgecombe (SASAES, AMNH); Pongola (SASAES). Also in EC, Li and WC.

Hosts in South Africa: Tropicuchidae: *Numicia viridis* Muir (Olmi 2006).

38. *Dryinus spangleri* Olmi, 1984: 762, ♀

Distribution: St Lucia Estuary (AEIC, AMNH); 10 km SE Pietermaritzburg, Ukulinga (UKZN); Ramsgate, Butterfly Sanctuary (NMSA). Also in GP, Li and MPU.

39. *Dryinus ugandanus* (Olm, 1984: 935), ♀

Distribution: Pietermaritzburg (AMNH). Also in WC.

#### Subfamily Gonatopodinae

Genus *Adryinus* Olm, 1984: 1126.

Type-species: *Neodryinus cerrutii* Benoit, 1951c, by original designation.

40. *Adryinus brothersi*\* Olm, 2006: 20, ♀

Distribution: nr Hluhluwe, Zulu Nyala Private Game Reserve (UKZN); nr Hluhluwe, Umziki Pan Reserve (NMSA).

41. *Adryinus mostovskii*\* Olm, 2007: 215, ♀

Distribution: Royal Natal Nat. Res. [28°41.4'S:28°56.3'E] (NMSA).

Genus *Gonatopus* Ljungh, 1810: 161.

Type-species: *Gonatopus formicarius* Ljungh, 1810, by monotypy.

*G. nearcticus* group

42. *Gonatopus nearcticus* (Fenton, 1927: 6), ♀ ♂

Distribution: Richards Bay (MZLU); Gingindlovu (BMNH, MOLC); Empangeni (BMNH); Kloof (BMNH, MOLC); Van Reenen (AMNH, BMNH); Champagne Castle (PPRI-NCI); Northern Drakensberg, 4 km S of Cavern Berg Resort (MOLC, SAMC); Winterton, along Rd. 600, 5 km S of junction with Rd to Loskop (MOLC); Winterton, along Rd 600, in front of the gate of Cathrin Farm (MOLC, SAMC); Cathedral Peak, nr the gate of Cathedral Peak Hotel (MOLC). Also in EC, FS, GP and WC.

Hosts in South Africa: Cicadellidae: *Balclutha rosea* (Scott) (new record; M. Stiller det.).

*G. pilosoides* group

43. *Gonatopus acutus* (Olm, 1984: 1230), ♀ ♂

Distribution: Van Reenen (AMNH); Port Edward, along road from R61 to Umtamvuna Nat. Res. (MOLC). Also in Li and WC.

Hosts in South Africa: Delphacidae: *Toya tuberculosa* (Distant) (Olm 2006); unidentified Issidae.

44. *Gonatopus amoenus* Olm, 1994a: 72, ♀ ♂

Distribution: Cathedral Peak, nr the gate of Cathedral Peak Hotel (MOLC). Also in EC and WC.

Hosts in South Africa: Delphacidae: *Toya propinqua* (Fieber) and *Toya tuberculosa* (Distant) (Olm 2006).

45. *Gonatopus festivus*\* Olm, 1994a: 70, ♀ ♂

Distribution: Port Edward, along road from R61 to Umtamvuna Nat. Res. (MOLC, SAMC). This is a new record for South Africa.

46. *Gonatopus harteni* (Olm, 1987a: 438), ♀ ♂

Distribution: Nhlazatshe, NNW Denny Dalton, 28°11'S:31°12'E (PPRI-NCI). Also in WC.

Hosts in South Africa: Delphacidae: *Syndelphax capellanus* (Jacobi) (Olm 2006).

47. *Gonatopus ntumenensis*\* sp. n., ♀

Distribution: Eshowe, nr Ntumeni Nat. Res. (NMSA).

48. *Gonatopus similis* Brues, 1906: 107, ♀ ♂

Distribution: Port Edward, along road from R61 to Umtamvuna Nat. Res. (MOLC). Also in EC, FS, and Li.

*G. fuscus* group

49. *Gonatopus fuscus* (Olm, 1984: 1321), ♀

Distribution: Van Reenen (BMNH); Cathedral Peak area (AEIC); Umtamvuna Nat. Res. (SAMC); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA, MOLC); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA); Royal Natal Nat. Res., Mahai Camp (NMSA). Also in EC and WC.

*G. somerseti* group

50. *Gonatopus rufulus* (Olm, 1984: 1347), ♀

Distribution: Eshowe, nr Ntumeni Nat. Res. [28°52.08'S:31°22.41'E] (NMSA). Also in EC.

51. *Gonatopus subrufulus* Olm, 2006: 27, ♀

Distribution: Eshowe, nr Ntumeni Nat. Res. [28°52.08'S:31°22.41'E] (NMSA). Also in EC.

*G. ochreus* group

52. *Gonatopus nigrrior* (Olmi, 1984: 1458), ♀

Distribution: Van Reenen (BMNH). Also in FS.

53. *Gonatopus rubripes* (Olmi, 1984: 1454), ♀ ♂

Distribution: Mtunzini District, Umhlatuzi River (BMNH).

54. *Gonatopus varipes* Brues, 1906: 106, ♀ ♂

Distribution: Umkomaas Game Ranch (AEIC). Also in GP.

*G. incognitus* group

55. *Gonatopus communis* Olmi, 1984: 1610, ♀ ♂

Distribution: Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA). Also in EC, FS, and WC.

Hosts in South Africa: Cicadellidae: *Bonaspeia eriocephala* (Cogan), *Platentomus sobrinus* (Stål), *Recilia lobata* (Linnavuori) (Olmi 2006); new records: *Exitianus taeniaticeps* (Kirschbaum); *Recilia cotula* (Cogan); *Recilia dolabra* Kramer (M. Stiller det.).

56. *Gonatopus cuambensis* Olmi, 2004: 358, ♀

Distribution: Pietermaritzburg, Chase Valley (UKZN).

57. *Gonatopus guigliae* (Benoit, 1951d: 298), ♀ ♂

Distribution: Manguzi Forest edge (NMSA); Northern Drakensberg, The Ledges Guest Farm, along the road from R74 to Cavern Berg Resort (MOLC); Winterton, along Rd 600, in front of the gate of Cathrin Farm (SAMC). Also in FS, Li and WC.

Hosts in South Africa: Cicadellidae: *Exitianus taeniaticeps* (Kirschbaum) (Olmi 2006); new record: *Exitianus natalensis* Ross (M. Stiller det.).

58. *Gonatopus incognitus* Olmi, 1984: 1613, ♀ ♂

Distribution: St Lucia Estuary (UKZN); Northern Drakensberg, 4 km S of Cavern Berg Resort, along the road from R74 to Cavern Berg Resort (MOLC). Also in EC, FS and WC.

Hosts in South Africa: Cicadellidae: *Exitianus taeniaticeps* (Kirschbaum) (Olmi 2006).

59. *Gonatopus kolyadai*\* Olmi, 2007: 224, ♀

Distribution: Pietermaritzburg, Hilton [29°32'30"S:30°18'18"E] (NMSA).

60. *Gonatopus meridionalis* (Benoit, 1953: 391), ♀

Distribution: Eshowe (BMNH); Eshowe, nr Ntumeni Nat. Res. [28°52.08'S:31°22.41'E] (NMSA); Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA); Karkloof [29°19.1'S:30°15.5'E] (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (NMSA). Also in EC, GP and Li.

61. *Gonatopus natalensis* Olmi, 2008: 220, ♀

Distribution: Port Edward, along road from R61 to Umtamvuna Nat. Res. (SAMC). Also in FS.

Hosts in South Africa: Cicadellidae: *Recilia dolabra* Kramer (Olmi 2008).

62. *Gonatopus patrizii* Benoit, 1951c: 20, ♀

Distribution: Eshowe, nr Ntumeni Nat. Res. [28°52.08'S:31°22.41'E] (NMSA); Cathedral Peak Nat. Res., Rainbow Gorge (MOLC). Also in EC.

63. *Gonatopus transvaalensis* Olmi, 1987b: 59, ♀

Distribution: Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA). Also in FS, GP and MPU.

64. *Gonatopus turneri* (Benoit, 1951a: 158), ♀

Distribution: nr Durban, Kloof (BMNH). Also in EC and WC.

#### Subfamily Apoaphelopinae

Genus *Apoaphelopus* Olmi, 2007: 228.

Type-species: *Apoaphelopus mostovskii* Olmi, 2007, by original designation.

65. *Apoaphelopus mostovskii*\* Olmi, 2007: 229, ♂

Distribution: Louwsberg, Sanyati Nature Farm [27°34'S:31°17.9'E] (NMSA); Vernon Crookes Nat. Res. [30°17.4'S:30°36.9'E] (NMSA, MOLC).