

## Apionidae from North and Central America. Part 5. Description of genus *Apionion* and 4 new species (Coleoptera)

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**Abstract:** *Apionion* (type species *Apion crassum* Fall) is described for 14 species formerly assigned to the *Apion annulatum* species group of *Coelocephalapion* Wagner, namely, *championi* Sharp, *crassum* Fall, *derasum* Sharp, *dilatatum* Smith, *fenyesei* Kissinger, *howdeni* Kissinger, *inflatipenne* Sharp, *latipenne* Sharp, *latipes* Sharp, *lentum* Sharp, *neolentum* Kissinger, *samson* Sharp, and *subauratum* Sharp from North and Central America, and *annulatum* Gerstaecker from South America, all originally included in *Apion* Herbst. Four new species are described: *delion* (Panama), *eranion* (Costa Rica, Panama), *humongum* (Mexico, El Salvador, Honduras), and *sapphirum* (Mexico, Costa Rica). New records and/or supplemental descriptions are given for *championi*, *derasum*, *dilatatum*, *fenyesei*, *howdeni*, *inflatipenne*, *latipenne*, *latipes*, and *neolentum*.

### Introduction

This paper continues the generic review of North American Apionidae (Kissinger, 1992) where *Coelocephalapion* Wagner was elevated to generic rank. The *Apion annulatum* species group, implicitly excluded from *Coelocephalapion*, forms the basis of the new genus described here. Codons for collections are from Arnett, *et al*, 1993.

### *Apionion* Kissinger, new genus

**Type species:** *Apion crassum* Fall.

A member of Apionini. Vestiture generally reduced, often subglabrous. Median area of frons not defined as impression or flat area distinct from adjacent frons. Subcephalic ridges range from nearly flat to moderately high. Pronotum at base not expanded laterally, often conical in shape. Male characters include modification of legs absent or tibiae 2 and/or 3 mucronate and/or tarsus 3 with tarsomere 1 simple or with spiniform process; paramere with distinct articulation between basal area and free ring of basal piece; basal median area of paramere flat or with well-developed carina; sclerotized elements of endophalic armature not more than 50 $\mu$  long.

Includes the following members of *Apion* Herbst: *championi* Sharp, *A. crassum* Fall, *A. derasum* Sharp, *A. dilatatum* Smith, *A. fenyesei* Kissinger, *A. howdeni* Kissinger, *A. inflatipenne* Sharp, *A. latipenne* Sharp, *A. latipes* Sharp, *A. lentum* Sharp, *A. neolentum* Kissinger, *A. samson* Sharp, and *A. subauratum* Sharp from North and Central America and *A. annulatum* Gerstaecker from South America.

The distinguishing characters of *Apionion* are the lack of a basal lateral expansion on the pronotum,

the (generally) conical shape of the pronotum, the (generally) reduced subcephalic ridges, the structure of the frons, and the articulation between the basal area of the paramere and the basal piece.

The shape of the pronotum is usually conical with no constriction near the apex; *samson* and some of the new species have the sides nearly parallel at the base; *inflatipenne*, *latipenne*, and *samson* have an apical constriction.

The height of the subcephalic ridges in *Apionion* is generally low in contrast to *Coelocephalapion* but in *fenyesei*, *latipes*, and *subauratum* the ridges are well developed.

Most of the species of *Apionion* have inconspicuous vestiture on the pronotum and elytra; exceptions are *fenyesei*, *howdeni*, *lentum*, and *subauratum* which have more apparent vestiture. One long sensory seta may be present on elytral intervals 7 and 9 (some species only on interval 9); *samson* and *humongum* have multiple (2-4) long sensory setae on interval 9.

The nature of the median area of the frons is important in distinguishing these species from *Trichapion* Wagner. *Trichapion* spp. in general have a median region of the frons which is impunctate and may be impressed or sulcate; the sculpture of this region may distinguish it from the rest of the frons. *Apionion* spp. have the entire frons relatively flat and the sculpture and vestiture generally do not indicate a special median region.

Some species of *Apionion* closely resemble members of *Coelocephalapion* particularly in the shape of the prothorax but have the free ring of the basal piece articulated with the paramere.

In contrast to *Trichapion*, the males of many species of *Apionion* have the legs without sexual

modifications, but some have tibia 2 mucronate (*samson*) and tibia 3 mucronate (*fenyesei*, *howdeni*, *latipes*, and *subauratum*) and 2 species (*fenyesei* and *howdeni*) have tarsomere 1 of tarsus 3 with inner margin produced into a complex spine.

A feature *Apionion* has in common with *Trichapion* is the articulation between the basal area of the paramere and the basal piece. This articulation distinguishes *Apionion* from *Coelocephala* which has these parts 'fused' together. Other male genitalic characters are not so distinctive on a generic level. Most of the species of *Apionion* have macrochaetae on the lobes of the paramere that are at least 30 $\mu$  long, but some such as *fenyesei*, *howdeni*, *inflatipenne*, *lentum*, *neolentum*, *samson*, and *subauratum* lack macrochaetae over 10 $\mu$  long. Also, the nature of the basal median area of the paramere varies from flat to a high crista (more than 50 $\mu$  high in *samson*).

#### *Apionion championi* (Sharp)

**New locality:** Colombia: Quilichao, 7/8 June 1979, CIAT 71-79, on *Stylosanthes* spp. [Fabaceae].

#### *Apionion derasum* (Sharp)

**New localities:** Mexico: Chiapas: Hwy 24, 9 mi SE Teopisca, 16 May 1969, HF Howden, 1 male. Honduras: Comayagua: 7 km E Siguatepeque, 19 July 1977, CW&L OBrien & Marshall, 1 male. Costa Rica: Heredia Pr: La Selva Biol Sta 3 km S Pto Viejo 10° 26'N 84° 01'W, 10 August 1992, HA Hespeneheide, 1 female.

#### *Apionion dilatatum* (Smith)

This species was described from an unspecified locality in Arizona; it is uncertain that the species actually occurs in Arizona since the only previously known specimens were the original small series collected by Morrison before 1884.

**New localities:** Belize: Belize: 5 mi SW Hattieville, 10 August 1977, CW&L OBrien & Marshall, 1 male. Honduras: Comayagua: 10 km E Siguatepeque, 19 July 1977, CW&L OBrien & Marshall, 1 female. El Salvador: Monte Cristo, 23 km N Metapan, 2800 m, 8-10 May 1971, HF Howden, 1 male.

**Male characters:** Figures 1-4. Legs lack special characters. Median lobe of aedeagus in profile slightly rounded, sides beyond orifice converging toward apex, curved downward beyond orifice,

apex bluntly produced dorsally; in dorsal view sides gradually converge from base to orifice, more strongly converging beyond orifice to broadly rounded apex; endophallus with many rows of tubercles (length of each about 10 $\mu$ ) extending from base to orifice, near orifice is group of tooth-like structures nearly 40 $\mu$  long; posterior apophysis about 0.85 as long as remainder of median lobe. Paramere short, broad, parameroid lobes short, broad, lightly sclerotized, slightly striated; with small sclerotized plate bearing 4-6 macrochaetae 20-27 $\mu$  long; fenestrae presumably between main body of paramere and small sclerotized plate bearing setae; short basal lateral projection to articulation with free ring of basal piece; basal median area of basal plate flat.

#### *Apionion fenyesei* (Kissinger)

**New localities:** Mexico: Nuevo Leon: Chipinque Mesa, 11 mi S Monterrey, 3800', hardwood forest, 2 June 1983, R Anderson. Quintana Roo: Kohunlich Ruins, ca 30 mi E Chetumal, 350', 15-16 July 1983, Mixed cahune palm forest, R Anderson. Chiapas: 34.5 km W San Cristobal de las Casas, 29 Sept 1986, R Turnbow. Panama: Chiriqui Prov: Cerro Colorado, drill site 210, 1210m, 24 January 1981; FMHD #81-75; litter at rdside under bush; W Suter. 2.5 mi W El Volcan, Las Lagunas, 4400', 9 July 1974; O'Briens & Marshall.

#### *Apionion howdeni* (Kissinger)

**New localities:** Mexico: Nuevo Leon: Chipinque Mesa, 11 mi S Monterrey, 3800', 2 June 1983, hardwood forest, R Anderson. Chiapas: 4 mi N Bochil, 4 May 1969, HF Howden.

#### *Apionion inflatipenne* (Sharp)

**New localities:** Mexico: Quintana Roo: Tulum Ruins, 10', 17 July 1983, dune flora, W Maddison. Oaxaca: 6 mi S Valle Nacional, 2000', 18-20 May 1971, H Howden. 12 mi S Valle Nacional, 3000', 17 May 1971, H Howden. 15 mi S Valle Nacional, 4000', 20 May 1971, H Howden. Panama: Canal Zone: Panama Canal area Gamboa, 15-20 June 1983, B Gill.

Add following to Kissinger (1968); see figures 5-7. Elytral intervals 7 and 9 have 1 long sensory setae near the apex of the elytra. Male characters: tibiae 2 and 3 mucronate; mucro 2 stout, triangular, acute, 29 $\mu$  long; mucro 3 peglike, 17 $\mu$  long.

*Apionion latipenne* (Sharp)

**New localities:** Panama: Canal Zone: Diablo Heights, 23 Feb 1971, coll. EG Riley. Mexico: Oaxaca: 10.4 mi SW Valle Nacional, 2200', 24 June 1983, transition forest, R Anderson. 12 mi S Valle Nacional, 3000', 17 May 1971, HA Howden. 14.3 mi SW Valle Nacional, 3700', 24 June 1983, transition forest, R Anderson. 26 km E Valle Nacional (km 71), 1220 m, montane tropical forest, S&J Peck.

This species was described from a single specimen thought by Kissinger (1968) to be a female; it is probable that the sex was misidentified because the specimen is mounted dorsal side up on a card and the venter and apex of the tibiae were not visible. Several series of specimens can be referred to this species but differ from the type in having the femur entirely reddish yellow instead of the base and apex piceous; also the males of the series have the length of the rostrum and the proportions of the elytra similar to the type specimen. See figures 8-15. Elytral intervals 7 and 9 have 1 long sensory setae near the apex of the elytra. Male characters: Tibiae 2 and 3 mucronate, both mucrones about 27 $\mu$  long, mucro 2 broad, acute, mucro 3 peglike. Median lobe of aedeagus in profile with sides converging in apical half to near apex, apex enlarged into rounded process projecting ventrally and posteriorly, resembling crocheting hook; in dorsal view sides narrowed somewhat from base to near middle, apical half nearly parallel-sided, apex not visible because of downward curvature; basal apodemes short, stout; endophallus lacks distinct sclerotized elements. Tegmen parameroid lobes broad, short, sclerotized at base for about 1/2 length, apical region membranous, with 4-6 macrochaetae about 10-12 $\mu$  long, fenestrae joined medially; free ring of basal piece articulates with short projection from tegminal plate; basal plate flat medially.

*Apionion latipes* (Sharp)

**New locality:** Peru: Dept Madre de Dios: Avisaipoas, 150 km W Puerto Maldonado (by ground) on Inambari River, 30 SEP 1962, LE Peña.

*Apionion neolentum* (Kissinger)

**New localities:** Mexico: Campeche: 10 km W Xpujil, Chicanna, 300m, 12-16 July 1983, M. Kaulbars. Veracruz: Los Tuxtlas Biol Sta 20 km E

Catemaco, 100', 29-30 June 1983, RS Anderson, tropical forest.

*Apionion sapphirum* Kissinger, new species

**Type series:** Holotype. Male. Mexico: Oaxaca: 15 mi S Valle Nacional, 4000', 20 May 1971, H Howden; measured 385 det Kissinger (HAHC). Paratypes. 29, Veracruz: Est Biol de los Tuxtlas, 18°35'N 95°05'W, [27-30] April 1991, HA Hespeneheide or FT Hovore or G Gentry (CHAH, DGKC).

**Description:** Fig. 16-22. Length: 2470-3686 $\mu$ ; width: 1152-2047 $\mu$ . General aspect: Black with aeneous luster, elytra shiny blue; femur light reddish yellow except piceous on apex. Vestiture minute, white, inconspicuous. Rostrum: Of male 859-1243 $\mu$  long; 1.55 to 1.68 as long as prothorax; surface largely polished except lateral metarostrum alutaceous; ventral sublateral sulcus evident to near apical 0.20 of rostrum with fine scales similar to those on ventral margin of eye, metarostrum with shallow punctures coalesced to form 2 lateral and 1 subdorsal shallow sulci extending longitudinally, scales 23-45 $\mu$  long by 4-6 $\mu$  wide, mostly in the smaller range; mesorostrum expanded laterally at insertion of antenna; prorostrum with sparse, shallow, elongate punctures 18-27 $\mu$  long bearing inconspicuous scales about same length and 3-4 $\mu$  wide, with sulcus extending lateral ventrally from insertion of antenna to middle of prorostrum with scales 36-55 $\mu$  long and 4-7 $\mu$  wide, apical half cylindrical; male antenna inserted at basal 0.40-0.44 of rostrum at distance in front of eye 2.34-2.77 width of frons; dorsal margin of scrobe nearly evenly descending, subcephalic ridges low, extend to near middle of eye. Of female 1115-1673 $\mu$  long; 1.85 to 2.14 as long as prothorax; with ridges and sulci in basal region not well developed but evident, short suggestion of ventral sublateral sulcus ends before middle of rostrum bearing several short scales; nearly glabrous, surface finely alutaceous, with sparse, shallow elongate punctures about 9 $\mu$  wide and 18 $\mu$  long, virtually impunctate in apical 0.3; in profile moderately curved; in dorsal view not expanded at antennal insertion, distinctly expanded toward apex; female antenna insert at basal 0.34-0.42 of rostrum at distance in front of eye 2.25-3.34 width of frons; dorsal margin of scrobe evenly descending below eye. Head: frons 146-255 $\mu$  wide; 0.75 to 1.86 as wide as dorsal tip of rostrum; flat with several sparse, minute punctures; in profile dorsal margin

of head declivitous above posterior margin of eye. Prothorax: 530-877 $\mu$  long; at base 1.17 to 1.36 as wide as long; pronotum with minute basal lateral expansion, sides gradually converge from base to middle, rounded to apical constriction, apical margin flared outward, especially laterally; punctures shallow, irregular, 13-27 $\mu$  in diameter, bearing inconspicuous scales 13-18 $\mu$  long; surface finely alutaceous; basal fovea shallow; laterally scales surrounding procoxae slightly longer. Elytra: at humeri 1.30 to 1.49 as wide as prothorax at base; 2.62 to 3.18 as long as prothorax; 1.18 to 1.45 as long as wide (female with lower ratios); intervals about 2X striae, largely flat, with 1-2 irregular rows of minute punctures with scales more minute than pronotum; intervals 7 and 9 with long sensory seta near apex; striae coarse, deep, scales nearly invisible, on apex join 1+2+9, 3+4, 5+6, 7+8. Male characters: Tibia 2 with straight, acute mucro about 81 $\mu$  long; tarsus 3 with segment 1 on inner apical margin with straight, acute spine about 81 $\mu$  long. Median lobe of aedeagus slender, cylindrical; in profile apex produced into small, ventral lobe; in dorsal view sides largely parallel from base to orifice, apex narrow, rounded; basal apodeme 0.4 as long as median lobe, stout; endophallus lacks distinct sclerotized elements. Tegmen parameroid lobes minute, macrochaetae not apparent; fenestrae joined medially; free ring of basal piece articulates with short projection from terminal plate; basal plate with median crista 20 $\mu$  high.

See key following description of *A. delion*.

**Etymology:** Based on the shiny blue color of the elytra.

***Apionion eranion* Kissinger, new species**

**Type series:** Holotype: Female. Costa Rica: Heredia Prov: La Selva Biol Sta 3 km S Pto Viejo 10°26'N 84°01'W, 20 V 1990, HA Hesperheide; measured 00391 Kissinger (USNM). Paratypes: 1, same data but date 25 VII 1992 (CHAH). 4, Panama: Panama Prov: Llano-Carti Rd, km 9, 350m, 26 April 1986 and 11 May 1986, Stockwell (DGKC). 1, 8 km NE Cerro Jefe, 700 m, 27 March 1976, HP Stockwell (DGKC).

**Description:** Fig. 35-37. Length: 2755-3728 $\mu$ ; width: 1444-2157 $\mu$ . General aspect: Black, prothorax, head and rostrum with slight aeneous luster, elytra shiny blue. Vestiture virtually absent on dorsum, on venter, around eye, on legs and male rostrum white, fine, sparse. Rostrum: Of male,

1097-1152 $\mu$  long; 1.52 to 1.57 as long as prothorax; surface polished throughout, with minute, sparse punctures; with exception of base and around eyes, scales minute, sparse; dorsal submedian sulcus indicated by shallow, elongate punctures, dorsal sublateral sulcus distinctly impressed basad of antennal insertion, basal lateral sulcus indicated, with 3-4 scales 35-46  $\mu$  long, 4-7 $\mu$  wide (similar to but finer than scales below eye), ventral sublateral sulcus deeply defined to near apex of rostrum, with scales similar to those below eye moderately dense in region in front of antennal insertion extending about  $\frac{1}{4}$  length of rostrum; in profile moderately curved, sides nearly parallel at base and apical  $\frac{1}{4}$ , narrowing slightly beyond antennal insertion; in dorsal view sides distinctly expanded at antennal insertion, nearly parallel in apical  $\frac{1}{4}$ ; dorsal margin of scrobe slightly angulate basad of antennal insertion, subcephalic ridges low, extend to near middle of eye; male antenna inserted at basal 0.42 to 0.43 of rostrum at distance in front of eye 2.82 to 3.06 width of frons. Of female 1261-1782 $\mu$  long; 1.82 to 2.50 as long as prothorax; nearly glabrous; dorsal sublateral sulcus indicated by 2 rows of impressed, elongate punctures, sublateral sulcus deeply defined to slightly beyond middle of rostrum; in profile slightly curved, slightly attenuate from antennal insertion to tip; in dorsal view slightly attenuate beyond antennal insertion, slightly expanded at tip; female antenna inserted at basal 0.35 to 0.37 of rostrum at distance in front of eye 2.60 to 3.02 width of frons. Head: Frons 151-228 $\mu$  wide; 0.78 to 1.66 as wide as dorsal tip of rostrum; flat, with irregular row of fine, shallow lateral punctures 15-20 $\mu$  in diameter, median flat area between rows of punctures about 90 $\mu$  wide; in profile dorsal margin of head declivitous above posterior margin of eye. Prothorax: 640-932 $\mu$  long, at base 1.20 to 1.54 as wide as long; subconical in form, with distinct apical lateral constriction, actual apical margin flared outward, especially laterally; punctures shallow, 9-20 $\mu$  in diameter, shallow but distinct, bearing minute scales; surface very finely alutaceous; basal fovea shallow; laterally scales surrounding procoxa 35-64 $\mu$  long by 9 $\mu$  wide. Elytra at humeri 1.35 to 1.49 as wide as prothorax at base; 2.55 to 3.63 as long as prothorax; 1.20 to 1.26 as long as wide; intervals at middle of elytra about 3X striae, largely flat, with indistinct punctures; intervals 7 and 9 with one long sensory seta near apex; striae coarse, deep, scales nearly invisible, on apex join 1+2+9, 3+4, 5+6, 7+8. Male characters: Tibia 2 on

inner apical angle with mucro about  $81\mu$  long; tarsus 3 tarsomere 1 on inner apical margin with straight acute spine about  $97\mu$  long. Median lobe of aedeagus slender, cylindrical, about  $1100\mu$  long, about  $90\mu$  wide; in profile with apex simple; in dorsal view sides parallel from base to near apex, thence narrowed to fine apex; basal apodeme about  $\frac{1}{4}$  length of median lobe, in profile stout; endophallus lacks distinct sclerotized structures. Tegmen parameroid lobes not evident, lack macrochaetae; free ring of basal piece articulates with tegminal plate; basal plate with low median crista extending entire length. (In this dissection the median lobe seems somewhat teneral).

See key following description of *A. delion*.

**Etymology:** Greek (neuter, diminutive) for a common fund, a society of subscribers (its a big group!).

Two specimens (female, Panama: Pma Prov.: Cerro Campana 820m  $8^{\circ}40'N$   $79^{\circ}56'W$ , 18July76 Stockwell; male, 8 km NE Cerro Jefe 27MAR76 700m, HPStockwell) are very close to *eranion* but differ in having the pronotal punctation distinctly finer and more shallow. The male has tarsomere 1 of tarsus 1 distinctly expanded (compared to *eranion*) and clothed ventrally with dense, short cilia. The female rostrum is comparatively shorter and much more strongly curved, with the ventral sublateral sulcus evident to near the tip. It is not certain that these two specimens represent the same species nor that they are distinct from *eranion*.

#### *Apionion delion* Kissinger, new species

**Type series:** Holotype. Male. Panama: Panama Prov: 9 mi W Chepo; 9 July 1971; HA Hesperheide; measured 390 det Kissinger; (INBC). Paratypes. 1, Panama: Panama Prov: Cerro Campana, 11-15 MAY 1980; E Riley & LeDoux CWOB). 2, 2 mi N Pacora, 27 FEB 1970; HP Stockwell (DGKC). Canal Zone: 3, Madden Forest, mi 2.5, 18 June 1970; HA Hesperheide (CHAH, DGKC). 1, Canal Zone: Madden Forest, mi 5.0, 18 June 1970; HA Hesperheide (CHAH). 1, Madden Forest, 14 MAY 1978; CW & LB O'Brien & Marshall (CWOB). 1, Madden Forest preserve, 27 MAR 1971; WR Bivin (CWOB). 1, Fort Kobbe, 2 MAY 1971; WR Bivin (CWOB). 1, Fort Kobbe, 2 FEB 1985; HP Stockwell (DGKC). 1, Fort Kobbe, 10 MAR 1985, on flowers of *Dioclea guianensis*; H Stockwell (DGKC). 6, Tank Hill near Albrook Field, 30 JAN, 23 FEB, 20 MAR 1971; EG Riley

(CWOB, DGKC). 1, Road leading to La Pita signal station, 2 MAY 1971; WR Bivin (CWOB). 1, Jct K-9 and K-6 roads, 9 JUN 1976; EG Riley (CWOB). 1, 0.5 mi S Palo Seco  $8^{\circ} 54' N$   $79^{\circ} 34' W$ , 30 NOV 1969; Stockwell (DGKC).

**Description:** Fig. 23-28. Length: 2090-2212 $\mu$ ; width: 1042-1188 $\mu$ . General aspect: Dark reddish piecous; coxae & antennae somewhat lighter; legs pale reddish yellow, tarsi, apex of femora & tibiae darker. Vestiture white; on dorsum fine, sparse, uniform; slightly coarser ventrally and around eyes. Rostrum: Of male 567-695 $\mu$  long; 1.02 to 1.24 as long as prothorax; surface of metarostrum alutaceous, with irregular punctures bearing scales 27-46 $\mu$  long by 7-9 $\mu$  wide; surface of prorostrum more polished, with similar punctures and scales in basal half, apical third with smaller, sparser punctures, nearly glabrous, ventral sublateral sulcus evident to near apical 0.33, with 1 row of fine scales 36-46 $\mu$  long; in profile slightly curved, sides irregularly narrow from base to apex; in dorsal view apical 0.3 nearly parallel sided; male antenna inserted at basal 0.22-0.29 of rostrum at distance in front of eye 0.94 to 1.18 width of frons. Of female 786-859 $\mu$  long; 1.42-1.52 as long as prothorax; surface polished, very finely punctate, nearly glabrous except behind antennal insertion with sparse, minute punctures and sparse scales 36-46 $\mu$  long; ventral sublateral sulcus somewhat indicated behind basal 0.5 bearing 3-4 scales; in profile slightly curved, apical 0.3 parallel sided; in dorsal view slightly expanded at antennal insertion, apical 0.5 parallel sided. Head: frons 137-169 $\mu$  wide; 1.00 to 1.43 as wide as dorsal tip of rostrum; dorsal margin of head slightly declivitous above posterior margin of eye, scales around eye 27-55 $\mu$  long by 9-11 $\mu$  wide, subcephalic ridge extends to about middle of eye. Prothorax: 530-567 $\mu$  long, at base 1.16 to 1.28 as wide as long; pronotum lacks basal lateral expansion, sides slightly converge from base to middle, rounded to slightly constricted apex, punctures 18-27 $\mu$  in diameter, shallow but distinct, with scales 27-46 $\mu$  long by 4-7 $\mu$  wide, wider scales occur especially along basal margin, interspaces alutaceous; basal fovea moderately deep. Elytra: at humeri 1.31 to 1.44 as wide as prothorax at base; 2.45 to 2.72 as long as prothorax; 1.20 to 1.39 as long as wide; intervals finely alutaceous, about 3X width of striae, with 1-2 irregular rows of minute punctures bearing scales similar to pronotum, interval 9 with 1 long sensory setae in apical 1/4; striae fine, shallow, with scales

similar to adjacent interval, on apex join 1+9, 2 isolated, 3+4, 5+6. 7+8. Male characters: Tibiae 2 & 3 mucronate, mucro 2 fine, acute, curved outward, 37 $\mu$  long; mucro 3 broad, apical area complex, curved toward tarsus, 50 $\mu$  long; segment 1 of tarsus 3 with fine spine on inner apical margin, about 27 $\mu$  long. Median lobe of aedeagus in profile slightly produced dorsally at apex; in dorsal view sides parallel from base to near orifice, converging to bluntly narrowed apex, basal apodeme about 1/2 length of median lobe, stout; endophallus with minute, fine, dense toothlike structures and granules. Tegmen parameroid lobes not evident, with 5-6 macrochaetae about 5 $\mu$  long; fenestrae separated medially; free ring of basal piece articulates with short projection from tegminal plate; basal plate with median crista about 22 $\mu$  high extending from base to near fenestrae.

**Etymology:** Delion is the neuter diminutive of delos, a Greek word for evident, visible, clear.

*Dioclea guianensis* Benth, a possible host, is a member of Fabaceae (=Papilionideae) and occurs from Panama to northern South America (Croat, 1978).

The previous 3 new species can be placed in Kissinger (1968), key to males of species of *Coelocephalapion* occurring in North and Central America, as follows.

- 7(4). Tarsus 3 with segment 1 with inner apical margin produced into a spinelike process; elytra not compressed ..... 8  
 —Tarsus 3 unmodified; elytra bluish, compressed in form; femur in part red and black; Veracruz, Peru ..... *Apionion latipes* (Sharp)
8. Pronotum conical in form, lacking basal lateral expansion ..... 8A  
 —Pronotal sides parallel in basal 1/3, with small basal lateral flange; elytra unicolorous, black; Arizona, San Luis Potosi, Aguascalientes .....  
 ..... *Coelocephalapion carinirostrum* (Fall)
- 8A.. Elytra unicolorous ..... 8B  
 —Elytra dark castaneous with discal area in posterior 2/3 lighter in color .....  
 ..... *Apionion howdeni* (Kissinger)
- 8B. Elytra blue in color; coxae black; mucro on tibia 3 fine, acute ..... 8C  
 —Elytra castaneous; coxae lighter; mucro on tibia 3 broad, blunt, curved .....  
 ..... *Apionion delion* Kissinger

- 8C. Legs black; in profile apex of median lobe of aedeagus simple .....  
 ..... *Apionion eranion* Kissinger  
 —Femur light reddish yellow except black on apex; in profile apex of median lobe of aedeagus produced into small ventral lobe .....  
 ..... *Apionion sapphirum* Kissinger

### *Apionion humongum* Kissinger, new species

**Type series:** Holotype: Male. Mexico: Nayarit: Hwy 54 W Junction Hwy 15, 30 August 1971, TF Halstead, measurement 00200 det Kissinger; genitalia dissected in vial by DG Kissinger (CWOB). Paratypes. 1, Mexico: Chiapas: N of Arriaga, 20 Oct 1966, Harley P Brown (TAMU). 1, Mexico: Chiapas: hwy 195 5 km S jct hwy 190, 15 OCT 1988, R Turnbow, measurement 00398 det Kissinger (RSAN). 1, Honduras: Valle: 17 mi W Nacaome, 500', 23 June 1968, CD Johnson collector, measurement 00201 det Kissinger (CWOB). 1, El Salvador: San Vicente: Santo Domingo, 5 August 1966, JM Matta, mosquito light trap, measurement 00384 det Kissinger (specimen missing right elytron) (FSCA).

**Description:** Fig. 29-34. General aspect: Dark reddish; elytra may be slightly lighter; femur and tibia light reddish testaceous. Vestiture yellowish off-white, coarse, noticeable but sparse; not coarser and denser laterally or ventrally. Rostrum: Of male 1115 $\mu$  long; 1.30 as long as prothorax; basal 3/4 alutaceous, with irregularly dense, irregularly coarse punctures bearing scales 36-55 $\mu$  long and 10-12 $\mu$  wide; apical 1/4 smoother, glabrous, with finer, sparser punctures; in profile sides of pronotum irregular taper to tip; in dorsal view sides parallel at base, slightly expanded over insertion of antennae, nearly parallel in apical half, slightly expanded at tip; male antenna inserted at basal 0.38 of rostrum at distance in front of eye 1.96 width of frons, dorsal margin of scrobe irregularly oblique on mesorostrum, continuing to near middle of eye as low subcephalic ridge, subcephalic area not bounded behind. Of female 1280-1426 $\mu$  long; 1.21-1.35 as long as prothorax; much like male; female antenna inserted at basal 0.36-0.39 of rostrum at distance in front of eye 1.90-2.50 width of frons. Both sexes dorsal tip of rostrum 192-228 $\mu$  wide. Head: frons 201-264 $\mu$  wide; 1.44-1.71 as wide as dorsal tip of rostrum; dorsal margin of head declivitous above posterior margin of eye. Prothorax: 859-1133 $\mu$  long, at base 1.08-1.21 as wide as long; pronotum lacks basal lateral expansion, sides

nearly parallel in basal 1/2, roundly converging to constricted apex; punctures 27-64 $\mu$  in diameter, irregular in size and depth, with scales 46-64 $\mu$  long and 10-12 $\mu$  wide; interspaces 27-46 $\mu$  wide, alutaceous. Elytra: at humeri 1.57 -1.77 as wide as pronotum base; 2.61-2.96 as long as prothorax; 1.13-1.39 as long as wide (female with lower ratios); intervals about 3X striae, somewhat convex, with 2-5 rows of fine shallow punctures bearing scales 64-82 $\mu$  long and 8-10 $\mu$  wide; intervals irregular in height: 1, 4 and 5 somewhat depressed especially near middle of elytra; intervals 2, 3, and 6 somewhat elevated; striae coarse, deep, scales similar to adjacent area of interval; interval 9 with 1-3 long sensory setae near apex. Metasternum: with low median tubercle near anterior margin. Male characters: Tibia 2 mucronate, mucro 76 $\mu$  long, nearly straight, at right angle to axis of tibia, with acute apex. Median lobe of aedeagus in profile distinctly produced on upper margin at apex; in dorsal view sides narrow from base (145 $\mu$  wide) to orifice (91 $\mu$  wide) to fine apex; median lobe wider on dorsal surface and narrowed to acute ventral margin; cross section near orifice as slice of pie with round part dorsal and point ventral; endophallus lacks distinct sclerotized elements. Tegmen parameroid lobes short, with 1 macrochaeta 6 $\mu$  long (minute in size); free ring of basal piece articulated with short projection from tegminal plate; basal plate with high basal crista extending about 86 $\mu$  above surface of plate.

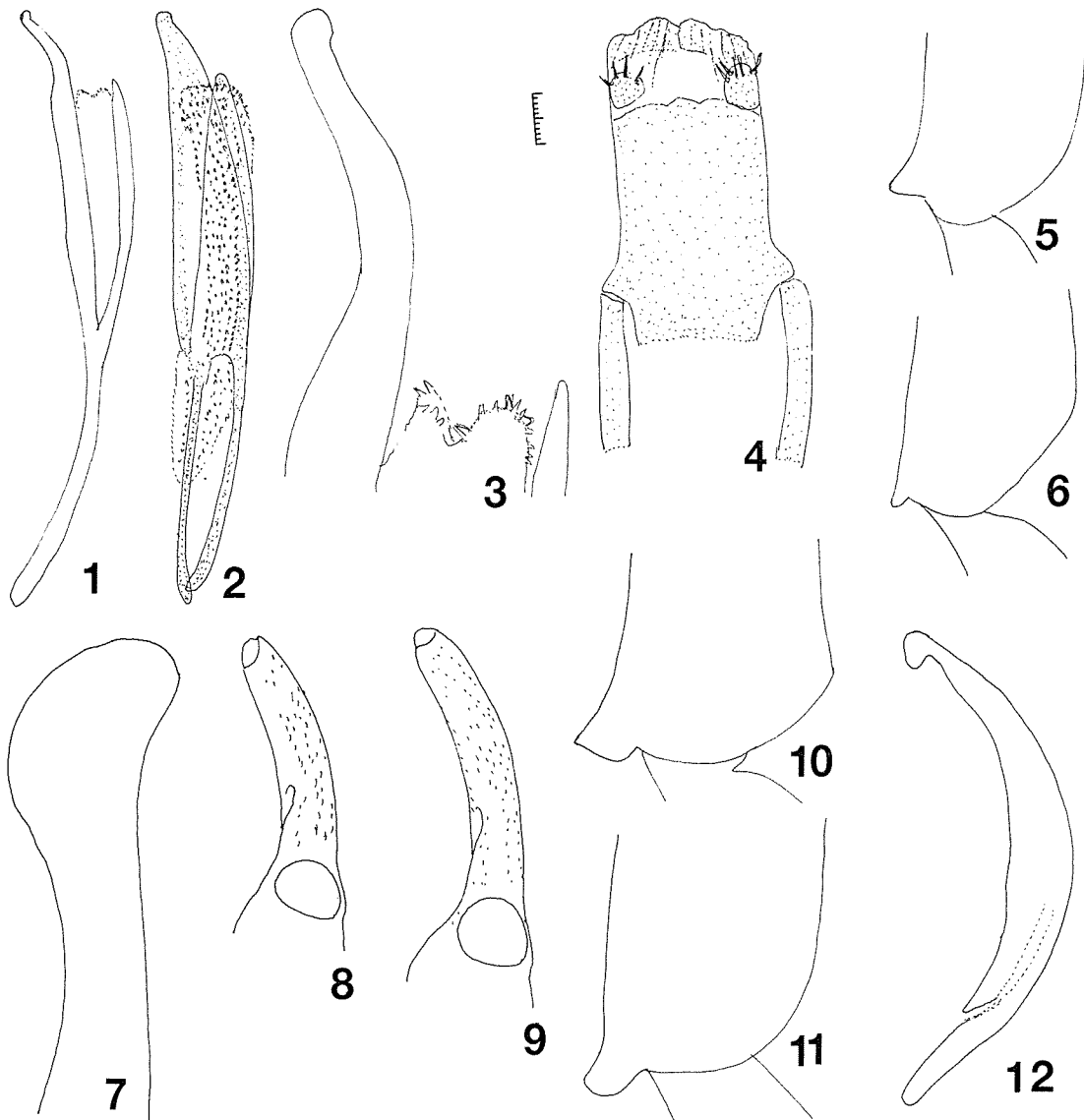
**Etymology:** The name is a whimsical reference to the large size of this species.

The species can be placed in Kissinger (1968), key to males of species of *Coelocephalopion* occurring in North and Central America, as follows.

3. Tibia 3 mucronate ..... 4  
 —Tibia 3 not mucronate ..... 3A
- 3A. Elytra dark blue; femur bicolored, black and light red; length 4.8-5.5 mm; Belize to Panama ..... *Apionion sampson* (Sharp)  
 —Elytra dark reddish; femur not bicolored; length 3.6-3.9 mm; Nayarit to El Salvador .....  
 ..... *Apionion humongum* Kissinger

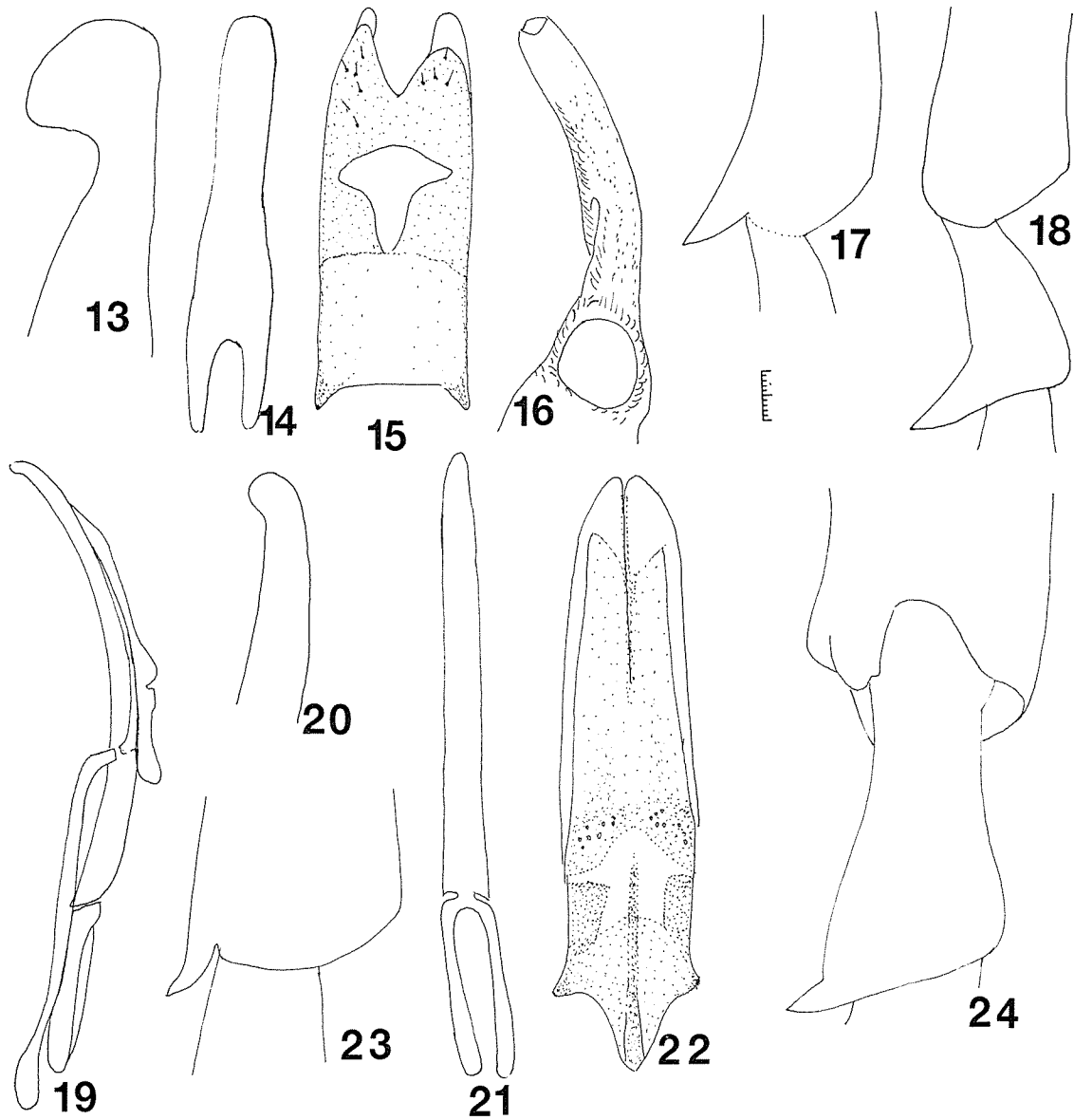
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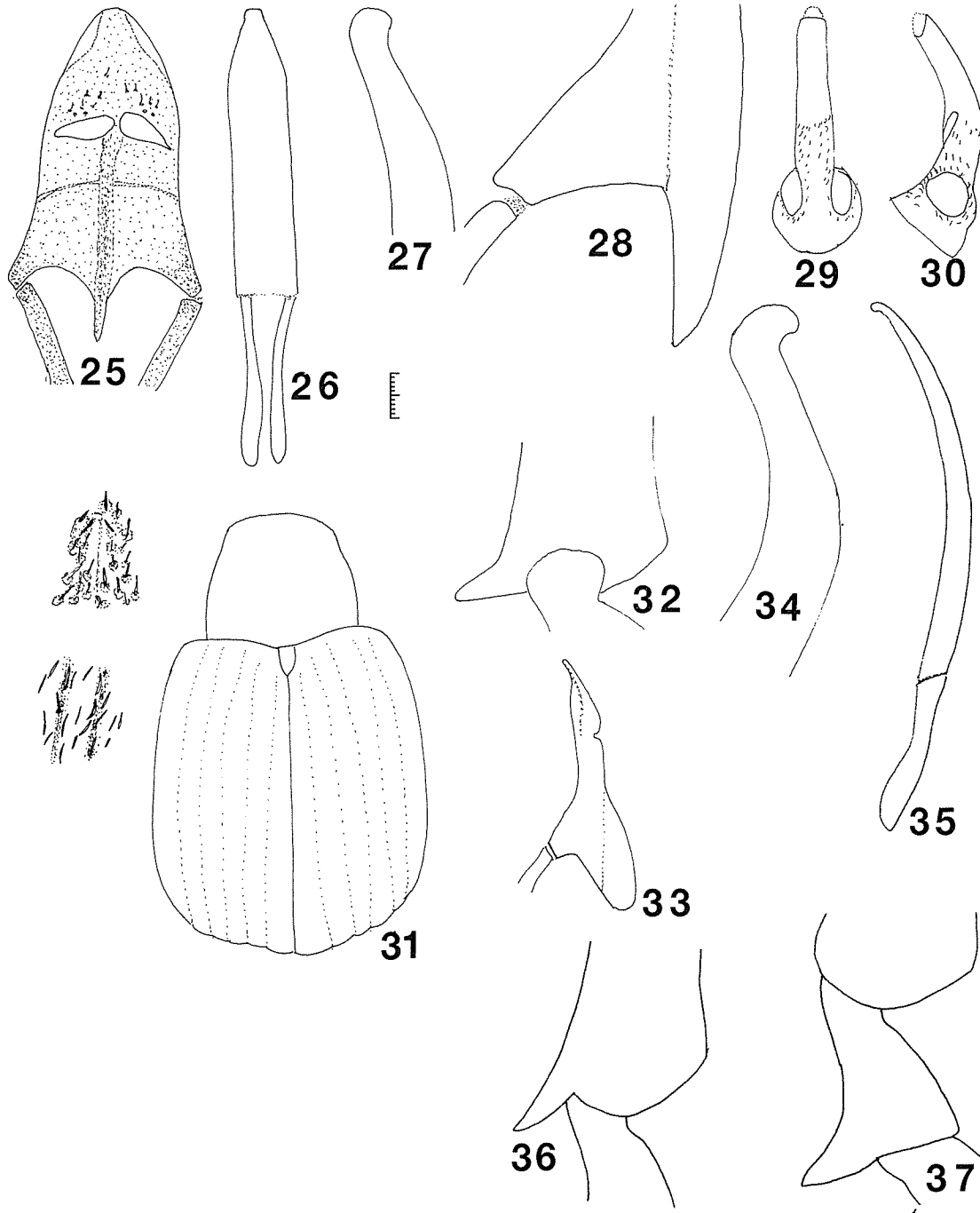


Figures 1-12. *Apionion dilatatum* (Smith); 1) median lobe of aedeagus, lateral view; 2) same, dorsal view tilted slightly; 3) apical region of median lobe of aedeagus, lateral view; 4) paramere of tegmen, dorsal view. *Apionion inflatipenne* (Sharp); 5) apical region of tibia 2 of male, lateral view; 6) apical region of tibia 3 of male, lateral view; 7) apical region of median lobe of aedeagus, lateral view. *Apionion latipenne* (Sharp); 8) head of male, lateral view; 9) head of female, lateral view; 10) apical region of tibia 2 of male, lateral view; 11) apical region of tibia 3 of male, lateral view; 12) median lobe of aedeagus, lateral view. Scale = 27 $\mu$  for Fig. 3, 7, 10, 11; 54 $\mu$  for Fig. 4-6; 110 $\mu$  for Fig. 1, 2, 12; and 200 $\mu$  for Fig. 8, 9.





Figures 13-24. *Apionion latipenne* (Sharp); 13) apical region of median lobe of aedeagus, lateral view; 14) median lobe of aedeagus, dorsal view; 15) paramere of tegmen, dorsal view. *Apionion sapphirum* Kissinger, holotype; 16) head of male, lateral view; 17) apical region of tibia 2 of male, lateral view; 18) apical region of tibia 3 and tarsus 3 tarsomere 1, lateral view; 19) median lobe of aedeagus and tegmen, lateral view; 20) apical region of median lobe of aedeagus, lateral view; 21) median lobe of aedeagus, dorsal view; 22) paramere of tegmen, dorsal view. *Apionion delion* Kissinger; 23) apical region of tibia 2 of male, lateral view; 24) apical region of tibia 3 and 3d tarsomere 1 of male, lateral view. Scale = 27 $\mu$  for Fig. 13, 20, 23, 24; 54 $\mu$  for Fig 15,17, 18, 22; 110 $\mu$  for Fig. 14, 19, 21; 200 $\mu$  for Fig. 16.



Figures 25-37. *Apionion delion* Kissinger; 25) paramere of tegmen, dorsal view; 26) median lobe of aedeagus, dorsal view; 27) apical region of median lobe of aedeagus, lateral view; 28) paramere of tegmen, lateral view of basal crista and detail of articulation. *Apionion humongum* Kissinger; 29) head of female, dorsal view; 30) same, lateral view; 31) pronotum and elytra of female, dorsal view. (with detail of pronotal and elytral sculpture); 32) apical region of tibia 2 of male, lateral view; 33) paramere of tegmen, lateral view. median lobe of aedeagus and tegmen, lateral view; 34) apical region of median lobe of aedeagus, lateral view. *Apionion eranion* Kissinger; 35) median lobe of aedeagus, lateral view; 36) apical region of tibia 2 of male, lateral view; 37) apical region of tibia 3 and tarsus 3 tarsomere 1 of male, lateral view. Scale = 27 $\mu$  for Fig. 27, 28, 34; 54 $\mu$  for Fig. 25, 32, 36, 37; 110 $\mu$  for Fig. 26, 35; 190 $\mu$  for detail on Fig. 31; 375 $\mu$  for Fig. 29-31.