

Apionidae from North and Central America. Part 4.
Generic classification and introduction
to the genus *Coelocephalapion* Wagner,
with new species from Mexico and Venezuela (Coleoptera)

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Abstract

The following subgenera of *Apion* Herbst are elevated to generic status: *Bothryopteron* Wagner (type species: *Apion grallarium* Sharp); *Coelocephalapion* Wagner (type species: *Apion bryanti* Wagner); *Coeloapterapion* Wagner (type species: *Apion testaceum* Wagner); *Fallapion* Kissinger (type species: *Apion impunctistriatum* Smith); and *Stenapion* Wagner (type species: *Apion constricticolle* Sharp). Twelve areas of apionid rostral sulci and carinae are defined and illustrated. Six new species of *Coelocephalapion* are described: four similar to *C. bryanti* (Wagner): *jumentum* (Panama and Honduras), *keletaon* (Belize), *pelor* (Panama), and *schema* (Panama); and two similar to *C. spretissimum* (Sharp): *adhocum* (Mexico) and *pigrae* (Venezuela). *C. pilirostre* (Wagner), near *bryanti*, is redescribed from Mexico and Honduras with neotype designation.

Introduction

This paper continues to update the taxonomy of North and Central American Apionidae with procedures as detailed in Kissinger (1990). Symbols for the following collections are referenced in this paper: CWOB: Dr. C.W. O'Brien, Florida Agricultural and Mechanical University, Tallahassee, FL 32307. DGK: collection of author. HAH: H.A. Hespeneide, University of California, Department of Biology, 405 Hilgard Ave, Los Angeles, CA 90024. HAH: H. & A. Howden, Carleton University, Department of Biology, Ottawa, Canada K1S 5B6. RSA: Dr. R.S. Anderson, Canadian Museum of Nature, Box 3443, Station "D", Ottawa, Ontario, Canada K1P 6P4. TAMU: Texas Agricultural and Mechanical University, Department of Entomology, College Station, TX 77843. USNM: National Museum of Natural History, Washington, D.C. 20560.

I am indebted to these persons and institutions for loan of specimens.

Alonso-Zarazaga (1991) proposed that the genus *Apion* Herbst be split into 2 supertribes and various tribes, subtribes, and genera. He proposed several new genera of New World Apionidae as

follows: *Neapion* Alonso-Zarazaga (1991:75; type species: *Apion umboniferum* Fall by original designation) (= *Xixias* Kissinger (1991:35; type species: *Apion herculanum* Smith by original designation)) contains 6 species formerly assigned to the **herculanum** species group by Kissinger, 1991. *Neapion* subgenus *Neotropion* Alonso-Zarazaga (1991:75; type species: *Apion xanthoxyli* Fall by original designation) contains 10 species formerly assigned to the **peculiare** species group by Kissinger, 1991. *Alocentron* subgenus *Nearctalox* Alonso-Zarazaga (1991:55; type species: *Apion hibisci* Fall by original designation) includes 8 North American species assigned to *Apion* subgenus *Alocentron* by Kissinger, 1968. *Trichapion* Wagner (type species: *Apion aurichalceum* Wagner designated by Kissinger (1968:29)) is elevated to generic status. *Kissingeria* Alonso-Zarazaga (1991:117; type species: *Apion amaurum* Kissinger by original designation) contains the species of **varicorne** and **disparatum** species groups. *Eutrichapion* subgenus *Leconteapion* Alonso-Zarazaga (1991:146; type species: *Apion cavifrons* LeConte by original design-

nation) contains 4 species assigned to *Apion* subgenus *Eutrichapion* by Kissinger, 1968.

As the first reviser I suggest that the names "Kissingeria" and "Nearctalox" be considered as arbitrary combinations of letters and that the names be declared neuter in gender (like *Apion*) so that species names transferred to them do not need to be emended. Likewise I suggest that all generic names based on the fragmentation of *Apion* also be considered neuter.

In line with this generic split, the following subgenera of *Apion* are elevated to generic status. *Bothryopteron* Wagner (1912:8); type species *Apion grillarium* Sharp designated by Kissinger (1968:29). *Coelocephalopion* Wagner (1914:145); type species *Apion bryanti* Wagner designated by Kissinger (1968:29). *Coelopterapion* Wagner (1912:2); type species *Apion testaceum* Wagner designated by Kissinger (1968:29). *Fallapion* Kissinger (1968:129); type species *Apion impunctistriatum* Smith by original designation. *Stenapion* Wagner (1912:20); type species: *Apion constricticolle* Sharp designated by Kissinger (1968:29).

Special Rostral Features of Apionidae

Figures 1-3 represent a hypothetical composite of the principal sulci and carinae present on the rostrum of apionids. These regions are listed in order from the dorsum of the head and rostrum. Even though a species may lack a particular carina or sulcus, the sculpture and vestiture present may clearly indicate one of 12 regions of the rostrum defined here. Numbers used here refer to areas designated on figures 1-3. (1) Dorsal median area of the frons may be carinate, flat, or sulcate; this region may continue onto the rostrum to varying degrees; in some cases the frons has a median impression that is continued on the rostrum as a median carina. (2) Dorsal submedial sulcus (DSMS) may be present on the frons and/or be defined on the rostrum. (3) Dorsal submedial carina (DSMC) may occur lateral to the DSMS and may be indicated on the frons and/or be defined on the rostrum. (4)

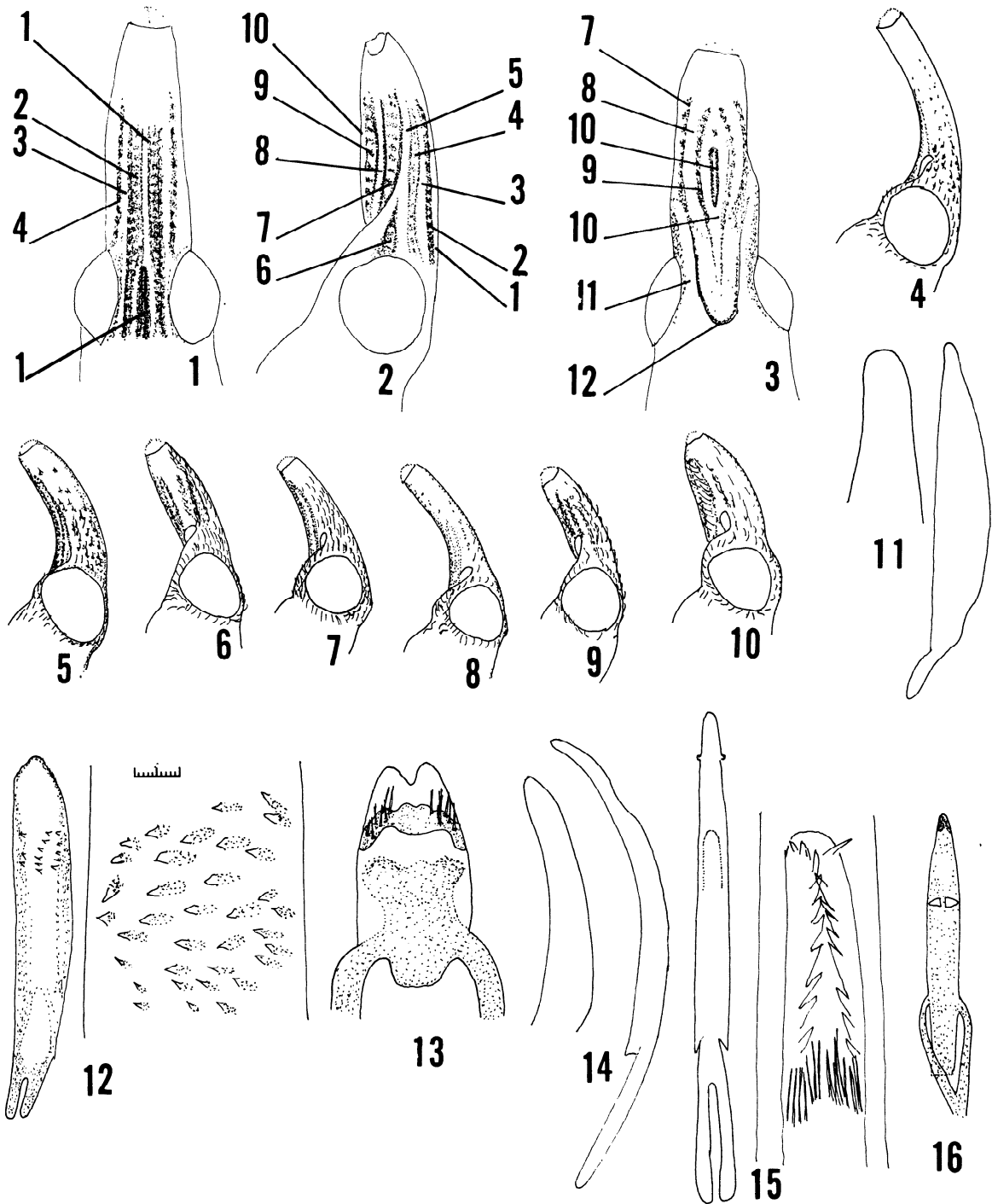
Dorsal sublateral sulcus (DSL) is lateral to the DSMC. (5) Dorsal sublateral carina (DSL) is lateral to the DSLS and may join the dorsal margin of the scrobe. (6) Basal lateral sulcus (BLS) is in front of the eye and is limited anteriorly by the union of DSLC and the margin of the scrobe. (7) Ventral sublateral sulcus (VLS) may represent an anterior extension of the antennal scrobe. (8) Ventral sublateral carina (VSLC) may occur anterior to the scrobe. (9) Ventral submedian sulcus (VSMS). (10) Ventral median carina (VMC) may be divided by a ventral median sulcus. (11) Subcephalic ridge (SR) is probably a basal extension of the dorsal margin of the scrobe. (12) Transverse subcephalic ridge (TSR) may extend and join the two SR on the underside of the head.

Genus *Coelocephalopion* Wagner, 1914:145

In North and Central America the genus contains 54 species in 7 species groups: (1) *bryanti*, (2) *spretissimum*, (3) *decoloratum*, (4) *frontellum*, (5) *nodicorne*, (6) *luteirostre*, and (7) *sordidum*; keys, descriptions and illustrations are given in Kissinger (1968).

The following characters distinguish this genus; some features are important because they are absent in *Coelocephalopion*. Male genitalia always have the free ring of the basal piece fused with the tegminal plate of the paramere, a condition not exclusive to this genus. Males of the seven groups mentioned above never have the tibiae mucronate. Males of *Trichapion* Wagner, by contrast, have a distinct articulation between the free ring and the tegminal plate and always have tibia 2 mucronate. The endophallus of *Neapion* Alonso-Zarazaga has a large (>400 μ) tuning-fork shaped process not noticed elsewhere in Apionidae. Males of *Fallapion* Kissinger have a special modification of femur 1 not found elsewhere in Apionidae. The other genera mentioned can be distinguished using keys in Kissinger (1968). The classification of this genus is in a preliminary state.

Figures 1-16. Diagrams of sulci and carinae on head and rostrum of hypothetical composite apionid; numbered areas explained in text. 1) dorsal view. 2) lateral view. 3) ventral view. *Coelocephalopion jumentum* Kissinger, new species. 4) head of female, lateral view. 5) head of male, lateral view. 11) outline of median lobe of aedeagus, lateral view; detail of tip. 12) same, dorsal view; detail of endophallus, orifice to top of page. 13) tegmen of male genitalia, dorsal view. *Coelocephalopion keletaon* Kissinger, new species. 6) head of male, lateral view. 14) outline of median lobe of aedeagus, lateral view; detail of tip. 15) same, dorsal view; detail of endophallus, orifice to top of page. 16) tegmen of male genitalia, dorsal view. *Coelocephalopion pelor* Kissinger, new species. 7) head of male, lateral view. 8) head of female, lateral



The *Coelocephalapion bryanti* Species Group

This is a large neotropical group; in addition to 8 species treated here, I have seen uniques of 8 more species. Specimens of *C. bryanti* (Wagner), from Port of Spain, Trinidad were reared from "jumping seeds of *Platymiscium platystachium*", a legume (unpublished).

This group has a compact body form, perhaps indicative of development inside seeds. In general, the rostrum is short, stout, and exhibits slight sexual dimorphism. The ventral submedial sulcus is strongly defined, at least in the basal fourth of the rostrum; this appears to be an important character. Another important character is the highly developed subcephalic ridges which form a crypt on the venter of the head which holds the basal 4-5 antennal segments; there is no terminal carina and the location of the end of the crypt varies from a line below the basal margin of the eye to near the base of the head; this character is responsible for the name of the genus. Males of some species have unmodified legs; others have tarsomere 1 of tarsus 2 and/or 3 produced into a spine-like process. The structure of the prothorax varies considerably; the basal margin varies from not produced to slightly produced laterally; the sides of the pronotum may be nearly parallel in the basal third or they may be largely conical from base to apex; the apex of the pronotum is usually constricted.

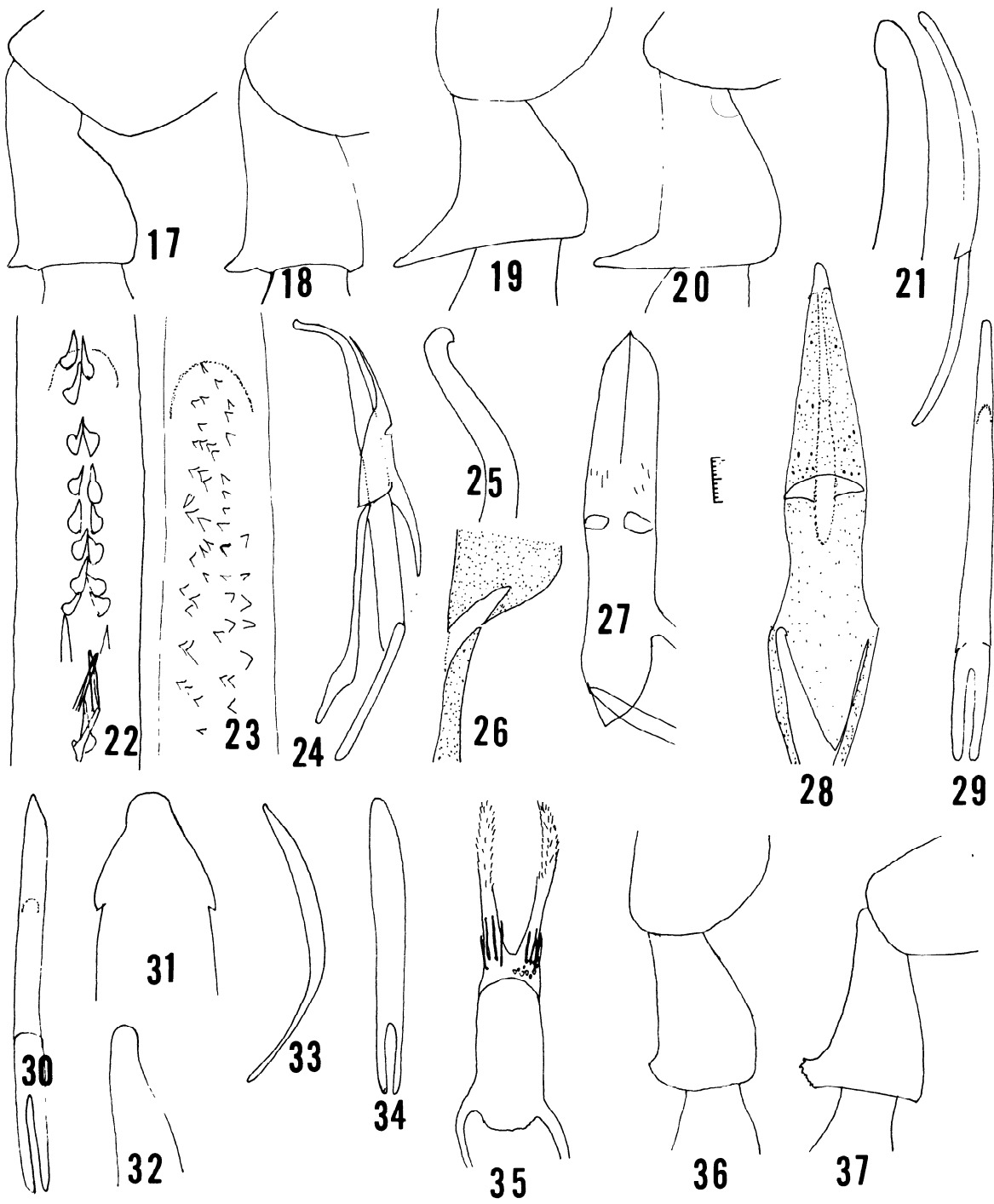
Coelocephalapion jumentum Kissinger new species

TYPE SERIES. Holotype: Male. CANAL ZONE: Barro Colorado Island, UV trap 1 (3m high), 4 AUG 76, H. Wolda (CWOB). **Paratypes:** 4, same data but dates from June-November 76 (CWOB). 1, same data but UV trap 3 (26m high), 24 MAY 76, H. Wolda

(CWOB). 1, Barro Colorado Island, 9 JAN 75, L.B. O'Brien (CWOB).

DESCRIPTION. Fig. 4, 5, 11-13. Length: 1937-2241·; width: 1106-1270·. **General aspect:** Piceous; vestiture sparse, fine, white, in part with yellowish luster; on sides and ventral surfaces whiter, slightly coarser. **Rostrum:** Of male 530-566· long; 0.94 to 1.03 as long as prothorax; surface largely polished, basal two thirds with fine, sparse punctures 15-30· wide bearing scales 27-45· long, 7-9· wide, scales mainly in basal half; in dorsal view sides in apical half nearly parallel except tip; in profile moderately curved, sides converging from base to apex, more strongly so at base, ventral sublateral sulcus deep in basal two thirds of prostrum, with minute scales; male antenna inserted at basal 0.14 to 0.16 of rostrum at distance in front eye 0.75 to 1.00 width of frons; dorsal margin of scrobe short, oblique, merging with strongly produced ventral margin of head. Of female 712-730· long; 1.20 to 1.29 as long as prothorax; surface polished, basal fourth with fine, sparse punctures 15-30· in diameter bearing fine scales 27-36· long, apical half cylindrical, glabrous, with minute punctures; in profile moderately curved; ventral sublateral sulcus deep in basal half of prostrum, with minute scales; female antenna inserted at basal 0.11 to 0.15 of rostrum at distance in front eye 0.78 to 0.92 width of frons; dorsal margin of scrobe as male. **Head:** Frons 90-118· wide; 0.63 to 0.73 as wide as dorsal tip of rostrum; frons largely flat, dorsal sublateral sulcus of isolated punctures; dorsal margin of head broadly sloped downward above basal margin of eye; subcephalic ridges high, extending to base of head, forming deep pocket which holds the first 4-5 antennal segments. **Prothorax:** 530-593· long, at base 1.37 to 1.48 as wide as long; basal margin slightly produced laterally, sides converging to slightly constricted apex; pronotal punctures 27-46· in diameter, with fine scales 36-64· long; interspaces finely alutaceous. **Elytra:** at humeri 1.40 to 1.51 as wide as prothorax at base; 2.34 to 2.61 as long as prothorax; 1.17 to 1.23 as long as wide; intervals about 2.5 width of striae, flat, with 2 rows of scales similar to those on pronotum, except for suture, becoming single row on declivity, scales on disk may be finer; striae deep, coarse, with scales similar to those on intervals; intervals 7 and 9 with 1 long sensory seta. **Male characters:** Legs

Figures 17-37. *Coelocephalapion keletaon* Kissinger, new species. 17) outline of male tarsomere 1 of tarsus 2. 18) outline of male tarsomere 1 of tarsus 3. *Coelocephalapion schema* Kissinger, new species. 19) outline of male tarsomere 1 of tarsus 2. 20) outline of male tarsomere 1 of tarsus 3. 21) outline of median lobe of aedeagus, lateral view; detail of tip. 22) detail of endophallus, orifice to top of page. 27) tegmen of male genitalia, dorsal view. 30) outline of median lobe of aedeagus, dorsal view. 31) detail of tip, dorsal view. *Coelocephalapion pelor* Kissinger, new species. 32) Outline of median lobe of aedeagus, lateral view, detail of tip. 33) same, entire lateral view. 34) same, dorsal view. 35) tegmen of male genitalia, dorsal view. *Coelocephalapion pilirostre* (Wagner). 23) endophallus detail, orifice to top of page. 24) outline of median lobe of aedeagus and tegmen, lateral view. 25) detail of tip of median lobe, lateral view. 26) detail of attachment of free ring of basal piece to tegmental plate, lateral view. 28) tegmen of male genitalia, dorsal view. 36) outline of male tarsomere 1 of tarsus 2. 37) outline of male tarsomere 1 of tarsus 3. Scale = 110· for Fig. 21, 24, 29, 30, 33, 34, 54· for Fig. 27, 28, 35, 27· for Fig. 17-20, 22, 23, 25, 26, 31, 32, 36, 37 and detail of Fig. 21.



lack special characters. Median lobe of aedeagus in profile roughly wedge-shaped from base to apex, tip simple; in dorsal view sides nearly parallel from base to broadly rounded apex; basal strut comparatively short, about 0.2 length of median lobe; endophallus with tooth-like structures 8-15· long oriented transversely near orifice. Tegminal plate comparatively small, about 245· long by 122· wide; parameroid lobes small, short, membranous, with comparatively long (about 19·), dense microtrichia (not shown on figure), on each side with 6-8 macrochaetae about 29· long (obscured by microtrichia); fenestrae broadly joined medially; free ring of basal piece comparatively stout, arms about 44· wide, fused with tegminal plate; basal plate flat.

Etymology: From Latin, *jumentum*, neuter, meaning beast of burden.

Distinguishing features: The rostrum is comparatively long, the apical half is nearly nude in both sexes, the ventral sublateral sulcus is deep in the basal half but largely erased in the apical fourth. Male genitalia have a short basal strut on the median lobe, and the tegmen is comparatively small.

Coelocephalapion keletaon Kissinger new species

TYPE SERIES. Holotype: Male. BELIZE: Stann Creek Town, 17 AUG 77, C.W. & L.O'Brien & Marshall (CWOB). **Paratypes:** 9, same data (CWOB).

DESCRIPTION. Fig. 6, 14-18. Length: 2052-2204·; width: 950-1032·. **General aspect:** Piceous, vague brassy luster, antenna dark testaceous; vestiture minute, sparse, white with slight yellow tinge; on head, sides of thorax and ventral surfaces longer, coarser. **Rostrum:** Of male 474-512· long; 0.93 to 1.00 as long as prothorax; surface slightly alutaceous, with fine, sparse punctures 9-20· wide, bearing scales 46-65· long, mostly 9-12· wide; in dorsal view sides in apical half nearly parallel; in profile nearly straight, sides slightly converging from base, more strongly so in apical fourth, ventral sublateral sulcus distinct in basal two thirds, bearing one row of scales; male antenna inserted at basal 0.30 to 0.33 of rostrum at distance in front eye 1.29 to 1.60 width of frons; dorsal margin of scrobe short, oblique, forming minute obtuse process before merging with ventral margin of head. **Head:** Frons 108-119· wide; 0.77 to 1.09 as wide as dorsal tip of rostrum; frons median area very narrow, slightly carinate, dorsal sublateral sulcus of impressed punctures; dorsal margin of head slightly sloped above posterior margin of eye; subcephalic ridges high, extending to basal margin of eye, forming moderately deep pocket which holds first 3-4 antennal segments. **Prothorax:** 493-548· long, at base 1.30 to 1.33 as wide as long; basal

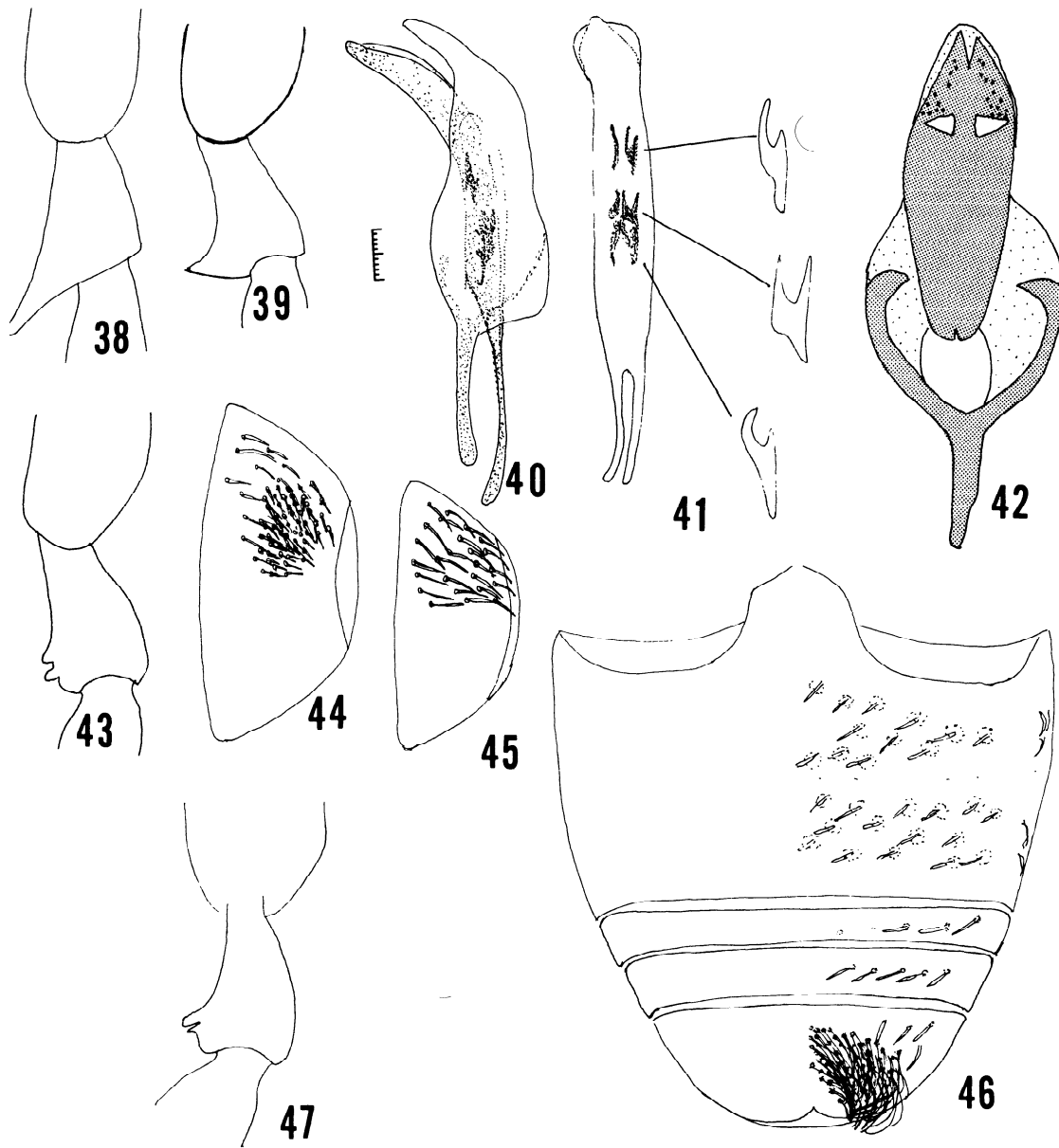
margin minutely produced laterally, sides nearly parallel in basal fourth, evenly converging to slightly constricted apex; pronotal punctures 18-37· in diameter, deep, bearing scales 26-41· long, 4-9· wide, finer scales on disk, coarser scales basally and laterally, interspaces somewhat irregular in width, nearly flat, finely reticulated; on sides with scales 46-64· long, 9-13· wide. **Elytra:** at humeri 1.42 to 1.45 as wide as prothorax at base; 2.69 to 2.84 as long as prothorax; 1.40 to 1.51 as long as wide; intervals about 3.0 width striae, flat, finely alutaceous, practically nude, with one row of minute dark scales, scales in apical region slightly more apparent; intervals 7 and 9 with 1 long sensory seta; stria moderately deep, fine, vestiture similar to intervals. **Male characters:** Tarsomere 1 of tarsus 2 with inner apical margin produced into spine-like process about 12· long; tarsomere 1 of tarsus 3 with inner apical margin produced into spine-like process about 32· long. Median lobe of aedeagus slender, subcylindrical; in profile tip simple, sides nearly parallel from base to near orifice, beyond orifice dorsal margin constricted to thinner apical part; in dorsal view apex broadly rounded to fine tip, near apex with small bleb-like lateral process; endophallus with two rows of teeth-like processes 12-19· long, with basal cluster of fine spines up to 45· long. Tegminal plate comparatively long, slender; parameroid lobes combined into 1 lobe, apical part more heavily sclerotized, microtrichia virtually absent, several macrochaetae 6· long; fenestrae separated medially; free ring of basal piece fused with tegminal plate; basal plate flat (in this preparation the exact termination of the basal plate is not clear).

Etymology: From Greek, *keletaon*, neuter, meaning charm or spell.

Distinguishing features: The body shape is somewhat more elongate than the other species in this group. The male has tarsi 2 and 3 with tarsomere 1 spined, but the process is minute and may be difficult to see. The shape of the tegmen is unique, especially the sclerotized tip of the single parameroid lobe; in profile the apex of the structure looks like a harpoon; apparently this modification is related to the pair of bleb-like processes on the median lobe in this region. The endophallus in addition to 2 rows of teeth-like processes, has at its base a cluster of fine spines up to 45· long. These genitalic features may be unique in Apionidae.

Coelocephalapion pelor Kissinger new species

TYPE SERIES. Holotype: Male. CANAL ZONE: Barro Colorado Island, 8 AUG 67, C.W. & L. O'Brien (CWOB). **Paratypes:** 1, Barro Colorado Island, 9 SEP 75, L.B. O'Brien (CWOB); 10, dates between



Figures 38-47. *Coelocephalapion pigrae* Kissinger, new species. 38) outline of tarsomere 1 of tarsus 1. 39) outline of tarsomere 1 of tarsus 2. 40) diagram of median lobe of aedeagus and tegmen, lateral view. 41) outline of median lobe of aedeagus with detail of 3 sclerites, dorsal view. *Coelocephalapion adhocum* Kissinger, new species. 42) diagram of tegmen of male genitalia, dorsal view. 43) outline of tarsomere 1 of tarsus 3. 44) diagram of male sternum 5, ventral view, vestiture partially indicated. *Coelocephalapion spretissimum* (Sharp). 45) diagram of male sternum 5, ventral view, vestiture partially indicated. *Coelocephalapion praeditum* (Sharp). 46) diagram of male sterna 1-5, ventral view, vestiture partially indicated. 47) outline of tarsomere 1 of tarsus 3. Scale = 54· for Fig. 40, 41, 42, 44-46, 27· for Fig. 38, 39, 43, 47 and detail of Fig. 41.

April-July, H. Hesperheide (HAH); 1, 20 MAY 77, H.&A. Howden (HAHC).

DESCRIPTION. Fig. 7, 8, 32-35. Length: 1747-1953·; width: 932- 1096·. **General aspect:** Piceous; vestiture sparse, fine, white; on sides and ventral surfaces slightly coarser. **Rostrum:** Of male 419-439· long; 0.96 as long as prothorax; surface finely alutaceous, basal 0.7 with fine, sparse punctures 11-20· wide bearing scales 27-45· long, 7-9· wide, scales moderately dense on dorsal aspect; in dorsal view sides converge to tip, more gradually so in apical half; in profile slightly curved, sides converging from base to apex, more strongly so at base, ventral sublateral sulcus deep in basal three fourths of pronotum, with several rows of fine scales; male antenna inserted at basal 0.17 to 0.19 of rostrum at distance in front eye 0.69 to 0.88 width of frons; dorsal margin of scrobe short, oblique, merging with broadly rounded ventral margin of head. Of female 512-548· long; 1.12 to 1.16 as long as prothorax; surface polished in apical fourth, basal half with fine, sparse punctures 11-20· in diameter, in basal fourth bearing fine scales 27-36· long, apical half cylindrical, glabrous, with minute punctures; in profile moderately curved; ventral sublateral sulcus deep in basal three fifths of pronotum, with several rows of minute scales, especially in basal half; female antenna inserted at basal 0.14 to 0.17 of rostrum at distance in front eye 0.82 to 0.89 width of frons; dorsal margin of scrobe as male. **Head:** Frons 88-108· wide; 0.65 to 0.80 as wide as dorsal tip of rostrum; frons largely flat, dorsal sublateral sulcus of isolated punctures; dorsal margin of head broadly sloped downward above basal margin of eye; subcephalic ridges high, extending to base of head, forming deep pocket which holds the first 4-5 antennal segments. **Prothorax:** 439-474· long, at base 1.40 to 1.55 as wide as long; basal margin slightly produced laterally, sides converging to slightly constricted apex; pronotal punctures moderately deep, 18-28· in diameter, with fine scales 46-55· long; interspaces finely alutaceous. **Elytra:** at humeri 1.43 to 1.53 as wide as prothorax at base; 2.61 to 2.80 as long as prothorax; 1.21 to 1.33 as long as wide; intervals about 2.5 width of striae, flat, with 2 rows of scales similar to those on pronotum, scales on disk may be finer; striae deep, coarse, with scales similar to those on intervals; intervals 7 and 9 with 1 long sensory seta. **Male characters:** Legs lack special characters. Median lobe of aedeagus slightly depressed; in profile tip simple; in dorsal view sides nearly parallel from base to orifice, gradually narrowed to bluntly rounded apex. Tegmen parameroid lobes very long, slender, membranous, with 4-5 macrochaetae mostly 25-50· long; fenestrae broadly joined medially; free ring of basal piece fused with tegminal plate; basal plate flat (detail of basal region of tegminal plate not clear in this preparation).

Etymology: From Greek, *pelor*, neuter, meaning monster or prodigy.

Distinguishing features: Resembles *C. prospicum* (Kissinger) but the male rostrum is comparatively longer and there is no suggestion of a median carina on the frons. A feature unique in Apionidae is the very long parameroid lobes.

Coelocephalapion schema Kissinger new species

TYPE SERIES. **Holotype:** Male. CANAL ZONE: Barro Colorado Island, UV trap 1 (3m high), 12 AUG 76, H. Wolda (CWOB). **Paratypes:** 2, same data but dates between May-September (CWOB). 2, same data but trap 3 (26m high), dates between June-November (CWOB).

DESCRIPTION. Fig. 10, 19-22, 27, 30, 31. Length: 1975-2165·; width: 1078-1124·. **General aspect:** Piceous; vestiture minute, sparse, white; on sides and ventral surfaces slightly longer, slightly coarser. **Rostrum:** Of male 419-457· long; 0.74 to 0.83 as long as prothorax; stout, surface slightly alutaceous, with fine, sparse punctures 9-20· wide bearing minute scales 25-46· long, scales on sides of rostrum somewhat longer and coarser than those on dorsal aspect, punctures and scales near tip smaller and sparser than basally; in dorsal view sides in apical half nearly parallel; in profile sides somewhat converging from base, dorsal margin somewhat curved, ventral sublateral sulcus distinct to near tip, bearing two confused rows of scales, some up to 64· long; male antenna inserted at basal 0.20 to 0.35 of rostrum at distance in front eye 0.83 to 1.60 width of frons; dorsal margin of scrobe short, oblique, merging with ventral margin of head. Of female 439-493· long; 0.84 to 0.87 as long as prothorax; similar to male except punctures finer, more shallow and scales shorter, finer; in profile dorsal margin distinctly rounded at tip (in male more gradually narrowed); female antenna inserted at basal 0.28 to 0.35 of rostrum at distance in front eye 1.51 to 1.70 width of frons. **Head:** Frons 90-128· wide; 0.53 to 0.74 as wide as dorsal tip of rostrum; frons median area very narrow, dorsal sublateral sulcus of impressed punctures; dorsal margin of head slightly sloped above posterior margin of eye; subcephalic ridges high, extending to base of head, forming deep pocket which holds first 4-5 antennal segments. **Prothorax:** 503-584· long, at base 1.30 to 1.45 as wide as long; basal margin slightly produced laterally, sides evenly converging to strongly constricted apex, lateral apical margin slightly expanded; pronotal punctures 26-37· in diameter, deep, bearing scales 26-46· long, 4-9· wide, finer scales on disk, coarser scales basally and laterally, interspaces flat, finely reticulated. **Elytra:** at humeri 1.40 to 1.48 as wide as prothorax at base; 2.43 to 2.72 as long as prothorax; 1.23 to 1.35 as long as wide; intervals about 2.5 width of striae, with 1 row of scales similar to those on pronotum, scales slightly

coarser laterally and apically, flat, finely alutaceous; intervals 7 and 9 with long 1 sensory seta; stria deep, coarse, vestiture similar to that of intervals. **Male characters:** Tarsomere 1 of tarsus 2 with inner apical margin produced into spine-like process 56· long; tarsomere 1 of tarsus 3 with inner apical margin produced into spine-like process 37· long. Median lobe of aedeagus slender, slightly depressed; in profile sides nearly parallel throughout, with tip slightly, broadly produced on ventral margin; in dorsal view sides nearly parallel from base to beyond orifice, apex shortly acuminate to rounded tip, near tip with small but distinct lateral projection; endophallus with 2 rows of 7-8 teeth 15-20· long, with 3 basal linear teeth 20-30· long. Tegminal plate lightly, uniformly sclerotized, tegmen parameroid lobes absent, lightly sclerotized, with 4 macrochaetae about 12· long; fenestrae broadly separated; free ring of basal piece fused with tegminal plate; basal plate flat.

Etymology: From Greek, *schema*, neuter, meaning form, shape or plan.

Distinguishing features: Elytra blue. Pronotum is conical in outline with a strong apical constriction; pronotal punctures are deep with interspaces distinctly alutaceous. Male rostrum is short and very stout; the ventral sublateral sulcus bears 2 confused rows of scales, some of which are longer than the other rostral vestiture. Male with tarsi 2 and 3 spined.

Coelocephalapion pilirostre (Wagner, 1914:149)

This species was described from a male from Tapachula, Mexico in the Wagner collection, which was destroyed during World War I; the species is redefined here.

Neotype: Male. HONDURAS: Comayagua: 5 km NW Taulabe, Rio Jaitique, 29 VII 77, O'Briens & Marshall (CWOB). Other specimens: HONDURAS: Comayagua: 14 km SW Siguatepeque, 15 VII 77, C.W. & L. O'Brien & Marshall, 1 male (CWOB). MEXICO: Chiapas: 7 mi S Ixtacomitan, 18 X 1976, Cate & Clarke, 2 males (TAMU).

DESCRIPTION. Fig. 9, 23-26, 36, 37. Length: 1671·; width: 786-867·. **General aspect:** Piceous. Vestiture white, fine, sparse on head, rostrum, anterior region of prothorax, venter, and legs; elytra nearly nude. **Rostrum:** Of male 346-439· long; 0.85 to 1.09 as long as prothorax; surface very finely alutaceous, somewhat

shining; dorsal submedial sulcus shallowly impressed, indicated from base to near apex as row of separated punctures 10-20· wide bearing overlapping scales 45-63· long, 7-9· wide, in 1 or 2 rows; dorsal submedial carina weakly raised; dorsal sublateral sulcus weakly impressed to near apex, with 1 row of similar scales; dorsal sublateral carina present; ventral sublateral sulcus deep to apical fourth, with 1 row of similar scales; ventral submedial sulcus indicated by separated fine punctures bearing minute scales; subcephalic ridge moderately high, extends to basal margin of eye; lacks transverse basal carina; in profile slightly curved, apical two thirds of pronotum cylindrical; male antenna inserted at basal 0.30 to 0.33 of rostrum at distance in front eye 1.17 to 1.60 width of frons; dorsal margin of scrobe oblique. **Head:** Frons 90-96· wide; 0.71 to 0.81 as wide as dorsal tip of rostrum. **Prothorax:** 402-419· long, at base 1.26 to 1.37 as wide as long; lacks basal lateral expansion, sides nearly evenly converging to nonconstricted apex; pronotal punctures shallow, 10-25· in diameter; scales 45-54· long, 7· wide, sparse on anterior margin, basal median area with shorter, finer, sparse scales; on flanks anterior margin with 1 row of dense scales as on rostrum. **Elytra:** at humeri 1.41 to 1.64 as wide as prothorax at base; 2.81 to 2.99 as long as prothorax; 1.44 to 1.47 as long as wide; intervals > 3 X width striae, flat, finely alutaceous, with 1 row of minute, indistinct punctures bearing minute (10· long), very fine scales; striae fine, shallow, vestiture minute, as on intervals; interval 9 with 1 long sensory seta. **Male characters:** Tarsomere 1 of tarsus 2 with minute spine 6· long; tarsomere 1 of tarsus 3 with blunt, irregular process 22· long. Median lobe of aedeagus slender, subcylindrical but narrowing slightly from base to apex; in profile tip produced dorsally; in dorsal view sides narrow from base to apex; endophallus with several confused rows of broad spicules 5-10· long. Tegminal plate long, slender; parameroid lobes absent but indicated by pigmentation, macrochaetae absent; fenestrae broadly joined medially; free ring of basal piece fused with tegminal plate (fig. 26); basal plate flat.

Distinguishing features: The pronotum is conical in shape and is not constricted apically; the punctures are shallow and sparse. The male has tarsi 2 and 3 with tarsomere 1 spined; the spine is minute on tarsus 2 and is blunt and irregular on 3. The male rostrum is scaly to near the tip. The tegmen has a single parameroid lobe but the pigmentation looks like a pair of lobes.

Key to Males of the Species of *Coelocephalapion bryanti* Species Group in North and Central America.

1. Tarsus 2 and 3 unarmed 2
- Tarsus 2 and 3 spined on tarsomere 1 6

2. Frons lacking distinct median carina 3
Frons with low, narrow median carina; rostrum < 0.8
as long as prothorax, with distinct scales in
apical half; vestiture on dorsum distinct, pronotal
scales project well beyond rim of puncture; Belize
..... *prospicuum* (Kissinger)
3. Rostrum with distinct scales in apical half, ventral
submedial sulcus evident to near apex 4
Rostrum in apical half nearly nude, ventral submedial
sulcus nearly erased in apical fourth, rostrum as
long (0.90-1.05) as prothorax; elytra piceous;
Honduras, Panama *jumentum* Kissinger
4. Elytra piceous; pronotal scales project beyond rim of
puncture; length < 2.0 mm 5
Elytra blue or bronzy; pronotal scales barely reach
rim of puncture, interspaces between punctures
distinctly alutaceous; length > 2.4 mm; Mexico
..... *subaequale* (Kissinger)
5. In dorsal view rostrum nearly parallel sided in apical
half; sides of pronotum subparallel in basal
third; tegmen parameroid lobe very short; Mexico
..... *pataikion* (Kissinger)
- In dorsal view rostrum distinctly tapered in apical
half; pronotum nearly conical beyond basal flange;
tegmen parameroid lobes very long; Panama ..
..... *pelor* Kissinger
- 6(1). Pronotum subconical in shape 7
Pronotum with sides subparallel in basal third;
elytra with brassy luster; rostrum > 0.9 length
pronotum; parameroid lobe more densely sclero-
tized apically; basal area of endophallus with
spines up to 45· long; Belize
..... *keletaon* Kissinger
7. Pronotum not constricted apically, with sparse, fine,
shallow punctures, interspaces nearly smooth;
elytra piceous; spine on tarsus 2 < 12· long;
Mexico, Honduras *pilirostre* (Wagner)
- Pronotum constricted apically, with distinct, deep
punctures, interspaces strongly alutaceous;
elytra bluish; spine on tarsus 2 > 50· long;
Panama *schema* Kissinger

Coelocephalapion spretissimum Species Group

Two species are added to the six species assigned to this group by Kissinger (1968). The taxonomy of the group is difficult because individuals are minute, usually under 1.75 mm, uniform in

appearance, and male genitalic characters are not distinctive.

The species may develop in flowers of *Mimosa* spp. Dr. I.W. Forno sent for identification specimens of Apionidae that are being evaluated as potential agents to control *Mimosa pigrae*, a weedy shrub introduced into Australia. Dr. Forno will publish host range studies of *Coelocephalapion aculeatum* (Fall) and *C. spretissimum* (Sharp) both of which have *M. pigrae* as a host. Included with material of these two was a new species from Venezuela, also with *M. pigrae* as a host. The name is published so that it may be used by Dr. Forno.

Coelocephalapion pigrae Kissinger new species

TYPE SERIES. Holotype: Male. VENEZUELA: Hato Las Viejitos, Achaguas, Apure Ste; 23 NOV 1990, I.W. Forno, R. Segura, ex *Mimosa pigrae* var. *pigrae* (USNM). 425 PARATYPES: 169, same data as holotype (USNM; CSIRO Long Pocket Laboratory, Indooroopilly, Queensland, Australia; CSIRO Australian National Insect Collection, Canberra; Departamento de Zoologia, Universidad de Central, Maracay, Venezuela; CWOB; DGK). 29, same locality, 22 NOV 1990, R. Segura, LPL 4147, ex *Mimosa pigrae* var. *pigrae* (CSIRO Long Pocket Lab, Indooroopilly, Queensland, Australia; DGK). 41, VENEZUELA: Hato Turagua, Achaguas, Apure Ste; 19 NOV 1990, I.W. Forno, R. Segura, ex *Mimosa pigrae* var. *pigrae* (CSIRO Long Pocket Lab, Indooroopilly, Queensland, Australia; CWOB; DGK). 21, VENEZUELA: Hato Turagua, Bruzal, Apure Ste; 20 NOV 1990, I.W. Forno, R. Segura, ex *Mimosa pigrae* var. *pigrae* (CSIRO Long Pocket Lab, Indooroopilly, Queensland, Australia; CWOB; DGK). 30, VENEZUELA: Apure Ste; NOV 1990, I.W. Forno, R. Segura, ex *Mimosa pigrae* var. *pigrae* (CSIRO Long Pocket Lab, Indooroopilly, Queensland, Australia; CWOB; DGK). 135, VENEZUELA: Guayabal, Guarico Ste; 27 NOV 1990, I.W. Forno, R. Segura, ex *Mimosa pigrae* var. *pigrae* (CSIRO Long Pocket Lab, Indooroopilly, Queensland, Australia; CWOB; DGK).

DESCRIPTION. Fig. 38-41. Length: 1292-1596·; width: 558-712·. **General aspect:** Light reddish castaneous, head, prothorax, suture and margin of elytra and ventral surfaces somewhat darker. Vestiture white with slight golden luster, whiter on sides and ventral surfaces; nearly uniform in density and coarseness. **Rostrum:** Of male 329-346· long; 1.05 to 1.16 as long as prothorax;

basal half with surface slightly alutaceous, with fine, sparse punctures bearing scales 18-40· long, 4-9· wide; apical half subcylindrical, surface polished, glabrous, with sparse, fine punctures; in profile moderately evenly curved; male antenna inserted at basal 0.20 to 0.26 of rostrum at distance in front of eye 0.92 to 1.25 width of frons; dorsal margin of scrobe somewhat broadly, angularly produced before merging with ventral surface of head. Of female 493-566µ long; 1.48 to 1.55 as long as prothorax; female antenna inserted at basal 0.14 to 0.21 of rostrum at distance in front eye 1.00 to 1.49 width of frons; prostrum largely polished and glabrous. **Head:** Frons 71-82· wide; 0.87 to 1.00 as wide as dorsal tip of rostrum. **Prothorax:** 282-365· long, at base 1.20 to 1.33 as wide as long; basal margin distinctly produced laterally, sides slightly expanded toward widest point near middle, there about as wide as base, rounded to constricted apex; pronotal punctures 15-30· in diameter, moderately deep, bearing scales 25-40· long, 6-9· wide; interspaces alutaceous. **Elytra:** at humeri 1.49 to 1.62 as wide as prothorax at base; 2.76 to 3.09 as long as prothorax; 1.42 to 1.60 as long as wide; intervals about twice as wide as striae, with 1 or 2 rows of scales similar to those on pronotum (intervals 1, 3 and 5 may have biserial rows), flat, surface slightly alutaceous; striae deep, coarse, with scales finer and shorter than those on adjacent interval; interval 9 with 1 long sensory seta. **Male characters:** Tarsomere 1 of tarsus 1 with inner apical margin produced into narrow spine-like process 50· long. Tarsomere 1 of tarsus 2 with inner apical margin produced into broad spine-like process 25· long. Median lobe of aedeagus in lateral view with apex not produced, about 14· wide; in dorsal view widest near apex, sides expanded slightly beyond attachment with basal apodemes and nearly parallel to near orifice, noticeably expanded beyond that point; endophallus with 3 pairs of sclerites, base of each between 40-50· long, with hook-like process 30-45· long. Tegmen with parameroid lobe single, lacks macrochaetae, fenestrae joined medially; expanded to attachment with free ring of basal piece; basal plate flat.

Etymology: Named after species of host plant, *Mimosa pigra* var. *pigra* L.

Distinguishing features: The combination of male secondary sexual modifications of the legs with the bicolored elytra, light reddish with suture and margin darker, is not found in any North or Central American apionid. Intervals 1, 3, and 5 have biserial rows of scales. The female rostrum is largely nude, nearly impunctate, and with a nearly smooth surface.

There is no key to South American Apionidae. This South American species would fit into the key to males of *Coelocephalapion* occurring in North and Central America (Kissinger, 1968) at couplet 10. The following change is proposed:

10. Tarsomere 1 of tarsus 1 not modified 10A
 Tarsomere 1 of tarsus 1 with apical inner margin produced into spine-like process; elytra light reddish with darker suture and sides, Venezuela *pigrae* Kissinger
- 10A. Tarsus 3 with segment 1 with inner margin produced into spine-like process 11
 Tarsus 3 with segment 1 unmodified 12

The females of *C. aculeatum* (Fall) and *C. pigrae* Kissinger are surprisingly similar. In comparing the species, *C. aculeatum* has elytral intervals 2 and 4 with biseriolate scales, the extreme base of the prostrum has sparse scales similar in size to the small scales behind the eye, the rostral punctures throughout are larger and deeper; and the rostral surface is (usually) more distinctly alutaceous; the elytra may be slightly reddish in color, particularly in the southern populations. *C. pigrae* elytra has intervals 1, 3, and 5 with (usually) biseriolate scales, the prostrum lacks distinct scales at extreme base, the rostral punctures are finer and more shallow, and the surface is more polished; the elytra may be more distinctly reddish in color. The differences in elytral vestiture may be difficult to see in abraded specimens.

Several females were seen with the rostrum short and similar to the male but with reduced vestiture.

Coelocephalapion persimile (Fall)

New Distribution Record: MEXICO: San Luis Potosi: 21 mi S Ciudad Valles, 25 MAY 1974, C.W. & L.O'Brien & Marshall, 1 female (CWOB).

Coelocephalapion praeditum (Sharp)

Figure 46, 47.

The male of this species has sternum 5 modified with a lateral tuft of long (in excess of 60·), yellowish setae (Fig. 46). Add the following to the male secondary sexual modifications of the legs described by Kissinger (1968): tarsomere 1 of tarsus 3 has a small nodule on the inner margin similar to Fig. 47. The female is unique because the prostrum is long, straight, and with deep elongate punctures to near tip. Females of all other species near *C. spretissimum* (Sharp) have the prostrum distinctly curved, usually shorter, and with less distinct punctures or impunctate.

The following new species was found by Dr. Wayne Clark while collecting tychiine weevils on leguminous shrubs in Mexico.

Coelocephalapion adhocum Kissinger
new species

TYPE SERIES. *Holotype*. Male. MEXICO: Oaxaca: 32.8 mi NW Jalapa del Marques, 13 VII 1971, Clark, Murray, Hart, Schaffner (USNM). *Paratypes*. 16 male, 20 female: same data (TAMU, DGK). 1 male, 6 female: MEXICO: Oaxaca: 11.3 mi SE Totolapan, 21 VII 1974, Clark, Murray, Ashe, Schaffner (TAMU, DGK). 10 male, 9 female: MEXICO: Chiapas: 35 mi SW Cintelapa, 11 VII 1971; Clark, Murray, Hart, Schaffner (TAMU, DGK).

DESCRIPTION. Fig. 43-44. Length: 1292-1996·; width: 631-822·. **General aspect:** Piceous. Vestiture white; nearly uniform in density and coarseness, on sides of prothorax distinctly coarser. **Rostrum:** Of male 355-393· long; 1.18 to 1.29 as long as prothorax; polished except at base; basal half with fine, sparse punctures bearing scales 18-30· long, 4-9· wide; apical half subcylindrical, glabrous, nearly impunctate; in profile moderately evenly curved; male antenna inserted at basal 0.21 to 0.25 of rostrum at distance in front eye 0.89 to 1.25 width of frons; dorsal margin of scrobe oblique, slightly produced before merging with ventral surface of head. Of female 402-566· long; 1.24 to 1.60 as long as prothorax; female antenna inserted at basal 0.12 to 0.18 of rostrum at distance in front eye 0.78 to 1.10 width of frons; rostrum in profile curved, with distinct minute punctures along entire length. **Head:** Frons 72-90· wide; 0.89 to 1.12 as wide as dorsal tip of rostrum. **Prothorax:** 291-384· long, at base 1.29 to 1.54 as wide as long; basal margin distinctly produced laterally, sides subparallel to middle, rounded to constricted apex; pronotal punctures 15-30· in diameter, moderately deep, bearing scales 25-40· long, 6-9· wide; interspaces alutaceous. **Elytra:** at humeri 1.54 to 1.67 as wide as prothorax at base; 2.49 to 3.24 as long as prothorax; 1.19 to 1.41 as long as wide; intervals about twice as wide as striae, with 1 row of scales similar to those on pronotum, flat, surface slightly alutaceous; striae deep, coarse, with scales finer and shorter than those on adjacent interval; interval 9 with 1 long sensory seta. **Male characters:** Tarsomere 1 of tarsus 2 with inner apical margin produced into broad spine-like, bifurcate process 25· long. Tarsomere 1 of tarsus 3 with inner margin produced into minute spine-like process or nodule. Sternum 5 with apical margin clothed laterally with vestiture 25-40· long, nearly glabrous medially. Median lobe of aedeagus in lateral view with apex not produced, about 17· wide; in dorsal view widest near apex, sides expanded slightly beyond attachment with basal apodemes and nearly parallel to near

orifice, beyond orifice broadly rounded to moderately narrow, slightly tubulate apex; endophallus with 7 or 8 sclerites, base of each between 40-50· long, bearing hook-like process 30-45· long. Tegmen with parameroid lobe single, lacks macrochaetae, fenestrae joined medially; expanded to attachment with free ring of basal piece; basal plate flat.

Etymology: The name is based on the word, *ad hoc*, meaning "for the purpose".

Distinguishing features: The male of *C. adhocum* is similar to *C. praeditum* (Sharp) in having tarsomere 1 of tarsus 3 with 1 or more minute nodules and sternum 5 modified by an unusual arrangement of setae; *adhocum* has the modification of sternum 5 different in degree: the lateral tuft of long setae of *praeditum* is reduced to shorter setae that are apparent because the medial area of the sternum has the vestiture much shorter; also sternum 5 of *adhocum* is more noticeably emarginate than *praeditum*. The female of *C. adhocum* is distinct from *C. praeditum* because the rostrum is shorter and more distinctly curved; it is similar to that of *C. spretissimum* (Sharp) except that the rostrum is distinctly punctured; *spretissimum* female rostrum is nearly impunctate and polished and the vestiture of the male sternum 5 is arranged differently (Fig. 45). The species is most easily distinguished from other members of this species group by female rostral characters and modifications of the male. Both sexes of *adhocum* are required to recognize this species with certainty.

Coelocephalapion adhocum Kissinger
complex.

Some specimens deviate from *C. adhocum* in ways that do not allow a clear cut separation into species. Lack of host data precludes the proposal of species names based on characteristics of unknown stability. Males have a modified 5th sternum and tarsomere 1 of tarsus 3 as in *adhocum*, but genitalic characters may show bizarre variation not consistently associated with distinctive external characters. Females show variation in rostral punctuation ranging from distinct as in *adhocum* to impunctate as in *spretissimum*. Some females have a short, stout rostrum similar to males, with reduction in vestiture; several were dissected to verify the sex.

MEXICO: Jalisco: 12.7 km. in Volcan Colima Rd. 1950m (nr. Atenquique), 3 VIII 1988, R.S. Anderson, 88-23 pine-oak forest (RSA, DGK). Based on dissection of two males, the apex of the median lobe of the aedeagus is truncate and broad compared to other dissected individuals from this species complex. Females have sides of the prorostrum largely impunctate in contrast to *adhocum*, but distinctly alutaceous in contrast to *spretissimum*.

Other females of this complex tend to have the sides of the prorostrum less deeply and more finely punctured than the type series but show gradation and no consistent patterns.

MEXICO: Chiapas: HWY 190, 1980m, 23 km SW San Cristobal de las Casas. Guerrero: 20 mi E Las Cruces. Mexico: 4.3 mi NE Ixtapan. Morelos: 5 km SE Tres Cumbres, oaks & misc. Oaxaca: 5 mi S Candelaria Loxicha; 11 mi N Candelaria Loxicha; 7.7 mi S Ejutla; 2.7 mi NW El Cameron; 8.3 mi SE El Cameron; 2.8 mi E Matatlan; 11 km E Mitla, 1800m; 13-14 km E Mitla, 2100m; 13 mi SE Tlacolula; 18 mi SE Tlacolula, 6500'; 23 km NW Totolapan; 16.1 mi NW Totolapan. Puebla: 16 mi NW Acatlan; 4.4 mi SW Acatepec. Veracruz: 1 mi N Rinconada. BELIZE: Stann Creek Town. HONDURAS: Comayagua: 8 km W Siguatepeque.

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ERRATA:

Kissinger, D. G. 1992. Apionidae from North and Central America. Part 4. Generic classification and introduction to the genus *Coelocephalopion* Wagner, with new species from Mexico and Venezuela (Coleoptera). *Insecta Mundi* 6(2): 65-77.

Because of an unrecognized software problem, the micron character 'μ' did not print correctly. In the figure captions and in the DESCRIPTION paragraph under the species, the bullet character "•" should be read as μ in every case. Also, the last line of the figure caption on page 66 should be "... view. *Coelocephalopion pilirostre* (Wagner). 9) head of male, lateral view. *Coelocephalopion schema* Kissinger, new species. 10) head of male, lateral view. Scale = 121 μ for fig. 4-10; 110 μ for Fig. 11, 12, 15, 16; 54 μ for Fig. 13; 27 μ for detail of Fig. 11, 12, 14, 15."