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ABSTRACT

Two hitherto widely separated genera, one of two and the other of four species, are shown to be closely related; they differ sufficiently from other genera to be placed in a separate tribe, the Cholomini. The male genitalia are illustrated for the first time.

During a continuing study of the Neotropical subfamily Cholinae (250 to 300 species), I had the opportunity to examine 30 specimens (including seven types) of the few species of the genera *Cholomus* and *Irenarchus*.

These peculiar, narrow-chested weevils, which appear to be restricted to parts of Colombia and Ecuador, are rare in collections, and nothing has been published on their ecology. When it is seen in profile, the hind body (especially that of the male with its long mesosternal projection) juts out in advance of the narrow, parallel-sided "chest," or prothorax, and in *Cholomus* is almost twice as thick as the prothorax. Big eye flaps as large as the accompanying indentation of the front border of the pronotum, fragile, linear legs, and a long, slender beak add to the eccentric appearance. The legs differ from those of most other of the Cholinae in having a scarcely visible tooth, or no tooth at all, on the femur, and in having the normal dorsal (or outer) comb of the tibia virtually confined to the apex, not ascending the tibia. There is only one apical tooth on the tibia, which seems to be an uncus arising, as in other of the Cholinae, from a bare carina internal to the apical fringe of setae. The long slender claws are connate at their base as in about a dozen other members of the subfamily. The inner armature or basal sclerite of the aedeagus is strongly sclerotized and of the same general type in both genera. The species of *Cholomus* are black and smooth with narrow scaly stripes, those of *Irenarchus* brownish yellow with tubercles and dense scales as well as scaly stripes.

No one has published on the close relationship between *Cholomus* and *Irenarchus*, which prior to the present paper have not even been mentioned together. Kuschel, however (*in litt.*), has united them in a separate tribe which he called the Cholomini. Kirsch (1869, 1889) could have perceived the similarity of these genera because he described species in both: *Dysmachus plinthoides* (a synonym of *Irenarchus fossilis*) and *Aphiorhamphus cavicollis* (a synonym of *Cholomus villei*). He considered them, however, in separate subfamilies, *plinthoides* in the Cryptorhynchinae and *cavicollis* in the Cholinae. Heller (1906) recognized *Cholomus* and *Huamboica* (synonym of *Cholomus*) in his key to the genera of the Cholinae, but he evidently did not know *Irenarchus*. Actually, the similarities of the two genera are more striking than the differences (see diagnosis of *Cholomus*), and the genera could, I believe, be synonymized. Nonetheless, for the present, I follow Kuschel in not synonymizing them, not only because their synonymies and affinities are already confused, but also because they can readily be differentiated, *Cholomus* by its widely separated front coxae and *Irenarchus* by its subcontiguous coxae. The significance of the spacing of the coxae may be questioned if additional specimens of either genus should be found to bridge the gap. In some genera of weevils, as in *Odontoderes* of the same subfamily, the intercoxal space is virtually the same in all individuals, whereas in other groups, as *Metamasius* of the Rhynchophorinae, the generic limitation is not possible as all gradations occur from narrow to less narrow to wide coxal spaces.

As the species are not abundant, I give for each species, under Specimens Examined, the institution to which the specimens belong. The letter symbols for these are as follows:

AM, the American Museum of Natural History, New York
BM, British Museum (Natural History), London
IR, Institut Royal d'Histoire Naturelle, Brussels
KU, Kuschel Collection, Entomology Divison, Department of Industrial and Scientific Research, Auckland
MN, Muséum National d'Histoire Naturelle, Paris
SM, Staatliches Museum für Tierkunde, Dresden
US, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

I thank Mr. Robert E. Logan of the American Museum of Natural History for the photographs,

and Dr. Charles Vaurie for figures 1 to 3 and the inking of the other drawings.

## TRIBE CHOLOMINI

*Diagnosis.* Length 9 to 22 mm. Surface (of *Cholomus*) black and smooth, with pale scaly stripes or bands; surface (of *Irenarchus*) rough, with black tubercles and pale scales intermixed. Eye very small, generally hidden by large, prominent pronotal lobe. Mandibles tridentate. Antennae with scape reaching to eye; funicle with terminal segment 7 separate from club.

Pronotum narrower than elytra, longer than wide. Scutellum visible. Mesosternum and metasternum (in lateral view) advanced beyond line of prothorax. Femora and tibiae linear, narrow; femoral tooth minute or obsolete; tibia at apex with single tooth (uncinate), and dorsal comb (fringe of setae) confined to apex. Tarsus with segment 1 longer but not wider than segment 2. Claws at base connate.

### KEY TO GENERA OF THE CHOLOMINI

Front coxae widely separated; elytra smooth except for scaly stripes or bands . . . . . *Cholomus* Roelofs

Front coxae subcontiguous; elytra tuberculate and scaly . . . . . *Irenarchus* Pascoe

## GENUS *CHOLOMUS* ROELOFS

*Cholomus* Roelofs, "1870" [1880], p. xl (type, by monotypy, *C. villei* Roelofs).

*Huamboica* Heller, 1906, p. 28 (type, by original designation, *Aphiorhamphus cavicollis* Kirsch, a synonym of *Cholomus villei*; synonymized by Kuschel, 1955).

*Diagnosis.* Similar to *Irenarchus* and differing from other Cholinae in having combination of characters as follows: femoral tooth minute or obsolete; dorsal comb of tibia confined more or less to apex; apex of tibia with single tooth; small eye covered by large pronotal lobe; connate claws; mesosternum and metasternum advanced, not on same plane as pronotum. Differing from *Irenarchus* as given in key above.

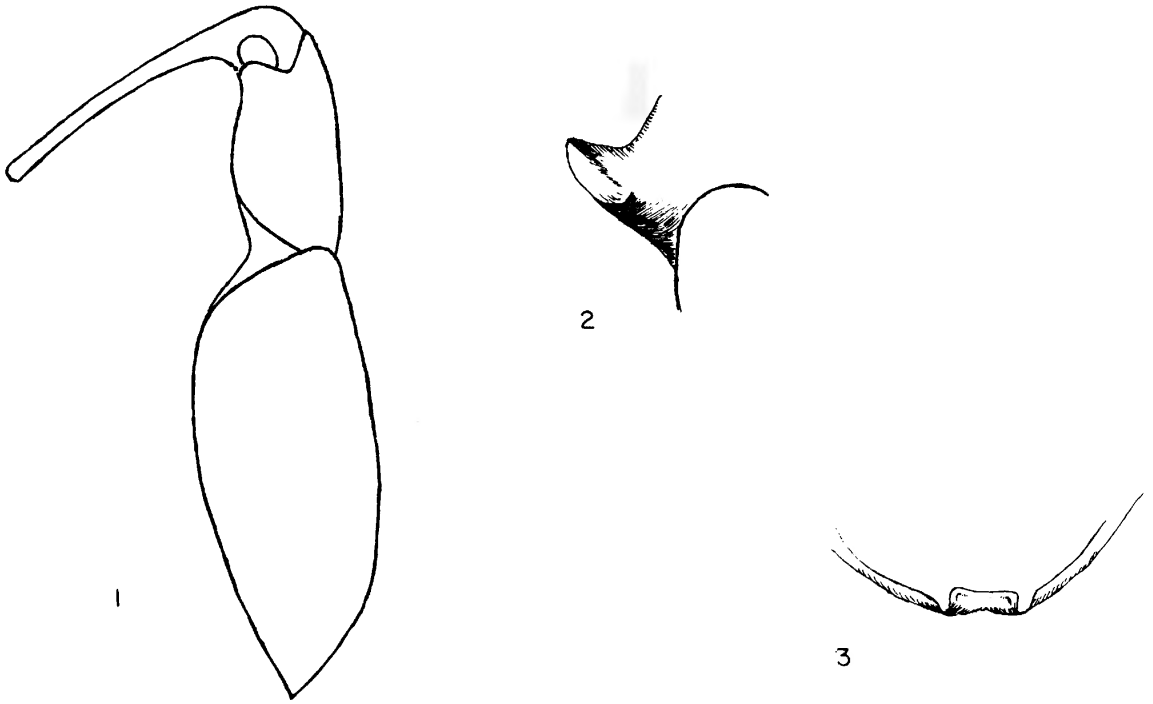
*Range.* Colombia and Ecuador.

*Description.* Black, opaque weevils with narrow scaly pale stripes or bands. Length 9 to 14 mm. Mandibles tridentate, pincer-like. Eyes lateral, transverse, elliptic, scarcely wider than width of base of beak (in lateral view), dorsally widely separated. Labium elongate; postmentum longer than prementum. Beak cylindrical, feebly or distinctly carinate, longer than pronotum. Antennal scape reaching about to eye; antennal groove descending to near base of beak; antennal funicle with segments elongate, segments 1 and 2 about equal (2 may be longer), and each twice length of segments 3 to 7; segment 7 separate from club; club oval, oblong.

Pronotum longer than wide, parallel-sided, narrower than elytra, in profile much narrower than mesosternum and metasternum; hind angles, when viewed laterally, obtuse; postocular lobe very large, covering eye entirely when head in repose; anterior border advanced over head; base sinuate. Scutellum visible. Elytra smooth, punctate-striate, with scales in narrow lines; sides subparallel; apex rounded-truncate; subapical callus prominent.

Prosternum in front broadly, deeply emarginate; base virtually straight, feebly tumid. Front coxae widely separated by diameter of coxa; middle coxae separated by one-fourth or one-half diameter of coxa. Mesepimeron with hind border angulate. Metasternum tumid, especially laterally, and as long as diameter of middle coxa. Metepisternum, except for tumidity in front, not wider than ental part of mesepimeron. Abdomen with segment 1 at middle slightly longer than segment 2, their suture sinuate; segment 2 longer than segments 3 and 4 combined. Posterior femur reaching almost to apex of elytra; femoral tooth often minute; femora and tibiae linear; tibia at apex with single tooth; tooth not longer than smaller antennal segments; outer apical comb short, virtually confined to apex of tibia, and forming wide, open corbel with inner comb. Tarsus with segment 1 longer but not wider than 2; segment 2 as long as wide or slightly longer than wide; segment 3 bilobed to near base. Claws at base connate. Genitalia of male with parameres and sclerotized inner armature.

*Secondary Sexual Characters of Male.* Beak generally more robust and antenna inserted farther front than those of females; beak ventrally with two fine, depressed lines. Pronotum with




FIGS. 1-3. *Cholomus*. 1. Lateral view of *C. granulicollis*, female. 2. Mesosternal projection of males. 3. Inner apex of terminal segment of abdomen of males.

discal depression, where present, longer and farther front than that of female. Elytra laterally carinate-tuberculate from base to near middle, but carina virtually obsolete in single male of *tenuitarsis* (carinae can be faintly present in some females). Mesosternum with long, narrow, recurved projection between middle coxae (fig. 2). Abdomen with inner apex of terminal segment with small rectangular projection (fig. 3).

*Discussion*. In contrast to *Irenarchus*, which was for a long time considered to be in various subfamilies, *Cholomus* has been in the Cholinae since its description with one exception, namely, that Costa Lima (1956, p. 170) considered it in the Nerthopinae.

A few of the characters of *Cholomus* are found in species of other genera. In males of a number of the Cholinae a mesosternal projection is present. Males of some *Cholus* (*basalis* Boheman, *calamita* Pascoe, *sparsus* Gyllenhal) possess both a mesosternal projection and basal lateral carinae on the elytra, but in these species the projection is shaped differently and the carinate elytra are more expanded. These two characters and the general appearance of the species were the basis of Roelof's genus. A combination of the carinate elytra, mesosternal projection, small eye, and single tibial tooth occur in the large species of *Rhinastus* weevils which, however, differ radically from *Cholomus* in having no postocular lobe, a wide, transverse pronotum, long tibial comb, large first tarsal segment, divergent claws, and no inner armature in the aedeagus. Some species of *Homalinotus* and of *Cholus* lack the femoral tooth on one pair of legs; in some *Cholus* there is only one apical tooth on the tibia, and in some the claws are connate.

The more or less aberrant characters of *Cholomus* are the exceptionally large lobe over the eye, the front of the pronotum extending over the head, the virtual absence of a tibial comb (except apically), and the narrow, parallel-sided prothorax that in lateral view is not on the same plane as the mesosternum and metasternum but seems set behind them.

The manubrium or handle of the tegmen is

shorter and stouter in *Cholomus* and *Irenarchus* (figs. 12, 16) than in most of the Cholinae, and in *Cholomus* the sides of the median lobe of the aedeagus are vertical or standing up, not flat. The median lobe in profile of *C. villei* and *obliquesignata* is more arcuate than that of *C. granulicollis* and *tenuitarsis*. No inner armature or basal sclerite was found on redissection of *villei* or *tenuitarsis*, both of which had already been dissected, but in the other two species this sclerite is composed of two pieces which are articulated at their base (figs. 8-11). Similar sclerites are present in *Irenarchus* and in some other of the Cholinae. The apodemes are long, about one and one-half times the length of the median lobe.

## KEY TO THE SPECIES OF *CHOLOMUS*

1. Pronotum strongly or feebly concave; femoral tooth obsolete; male with mesosternal projection scarcely recurved . . . . . 2
   Pronotum flat or feebly convex; femoral tooth minute but visible; male with mesosternal projection strongly recurved . . . . 3
2. Elytra with V-shaped white stripe distinct, extending from sides to top of declivity; subapical band absent; scales elongate; aedeagus with apex rounded . . . . . *obliquesignata* Heller
   Elytra with V-shaped white stripe indistinct, broken, or obsolete; subapical band present; scales oval or roundish; aedeagus with apex acuminate . . . . . *villei* Roelofs
3. Pronotum tuberculate; male with lateral carinae of elytra prominent, tuberculate-granulate; female with beak virtually straight, almost twice length of pronotum, and antenna inserted near middle of beak . . . . . *granulicollis* Heller
   Pronotum virtually smooth, at least on disc; male with lateral carinae of elytra feeble, scarcely visible; female with beak arcuate, scarcely longer than pronotum, and antenna inserted in front of middle . . . . . *tenuitarsis* Heller

### *Cholomus villei* Roelofs
Figure 4

*Cholomus villei* Roelofs, "1870" [1880], p. xli (Ecuador; type, male, in Institut Royal d'Histoire Naturelle, Brussels, examined).

*Aphioramphus cavicollis* Kirsch, 1889, p. 31, pl. 3, fig. 59 (Ecuador, "Huamboya, regione silvarum"; type, male, in Museum für Tierkunde, Dresden, examined; new synonymy).

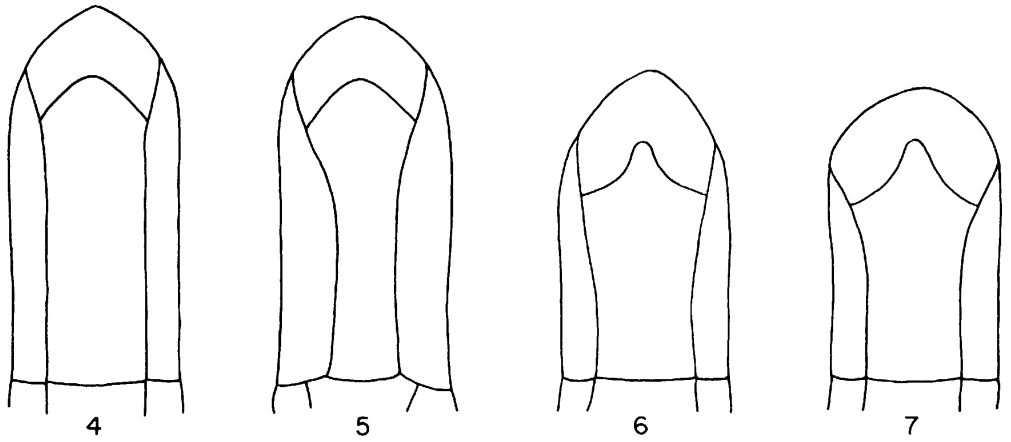
*Diagnosis.* Agreeing with *obliquesignata* and differing from *granulicollis* and *tenuitarsis* in having pronotum deeply concave, not rather flat, and in lacking inner tooth of femur. Differing from *obliquesignata* in elytral pattern and apex of aedeagus.

*Specimens Examined.* Ecuador, one male (type of *villei*, IR); Huamboya, one male (type of *cavicollis*, SM); Pujo [Puyo?], one male, one female (KU).

*Description.* Length 12 to 14 mm. Pronotum with two lateral yellow stripes of roundish scales, in some specimens also faint median stripe; scaly stripes on sides of prosternum, on shoulders of elytra, on elytra from middle of metepisternum obliquely backward, joining subapical scaly band which is transverse dorsally, but angulate laterally in front of callus; near suture at middle two tiny clusters of scales.

Beak of male feebly decurved at insertion of antenna, of female virtually straight, longer and narrower than that of male. Antenna of male inserted about apical third, of female farther back. Pronotum densely, in some specimens rugosely, punctate, feebly or deeply concave, concavity of male longer than that of female. Scutellum about as wide as long. Elytra longitudinally impressed at middle; male with basal lateral carinae of dense tubercles. Mesosternum of male with cone-like projection scarcely recurved, of female feebly tumid, as wide as diameter of middle coxa. Femora feebly clavate, without inner tooth. Aedeagus with apex acuminate; basal sclerite not found.

*Discussion.* The unique type of *villei* is unfortunately damaged; as it was when Roelofs described it. The elytra are spread apart slightly, the elytra and pronotum are shakily glued together, the scutellum has disappeared within the body, the club and part of the antennae are missing, and the scaly pattern of the elytra is indistinct and partially interrupted. In the type of Kirsch's *cavicollis*, which I consider a synonym of *villei*, and in a male and female I have on hand there is a distinct subapical band that is angulate on the sides over the callus of the elytra as in the type of *villei*; no oblique stripe shows on the dorsum of the elytra, but on the sides, opposite the met-




FIGS. 4-7. Dorsal view of aedeagus of *Cholomus*. 4. *C. villei*. 5. *C. tenuitarsis*. 6. *C. granulicollis*, type. 7. *C. obliquesignata*, type.

episternum is the beginning of an oblique stripe, and several clusters of scales on the dorsum indicate that the remainder of the stripe has been worn off. The "*cavicollis*" specimens appear black rather than dark red, but their legs are dark red with black apexes as in the type of *villei*. I cannot compare the aedeagus as I no longer have the type of *cavicollis* and the other male must have been visited by dermestid beetles because there is nothing left inside the abdomen.

### *Cholomus obliquesignata* (Heller)
Figures 7, 10-12

*Huamboica obliquesignata* Heller, 1917, p. 114 (Rio d'Aqua [=Rio Dagua], Colombia; type, male, in Museum für Tierkunde, Dresden, examined).

*Diagnosis*. Differing from other species in having V-shaped elytral stripes extending directly and distinctly to top of elytral declivity, their scales narrower, more elongate, and in absence of subapical band. Otherwise similar to *villei*, but with apex of aedeagus rounded-truncate, not acuminate.

*Specimens Examined*. Colombia, one female (KU); S. Antonio, September, 1908, one female (KU); Rio Aqua [=Rio Dagua], 2000 meters, one male (type), one female (SM).

*Description*. Length 12 to 13 mm. Color pattern as described for *villei* except for absence of subapical elytral band, and for oblique band reaching directly to suture at top of elytral declivity. Remaining characters as described for *villei* except for shape of aedeagus.

*Discussion*. In other species of the genus the scales that form the pattern of the elytra are evidently readily disturbed and fall off in parts, but in the four specimens examined of *obliquesignata* the pattern is distinct and constant. Heller (1917) in his key to the species separated *obliquesignata* on the pattern only. Possibly additional specimens may show a subapical band or part of one, and if the apex of the aedeagus or the shape of the scales should prove variable, then *obliquesignata* could be synonymized with *vellei.*

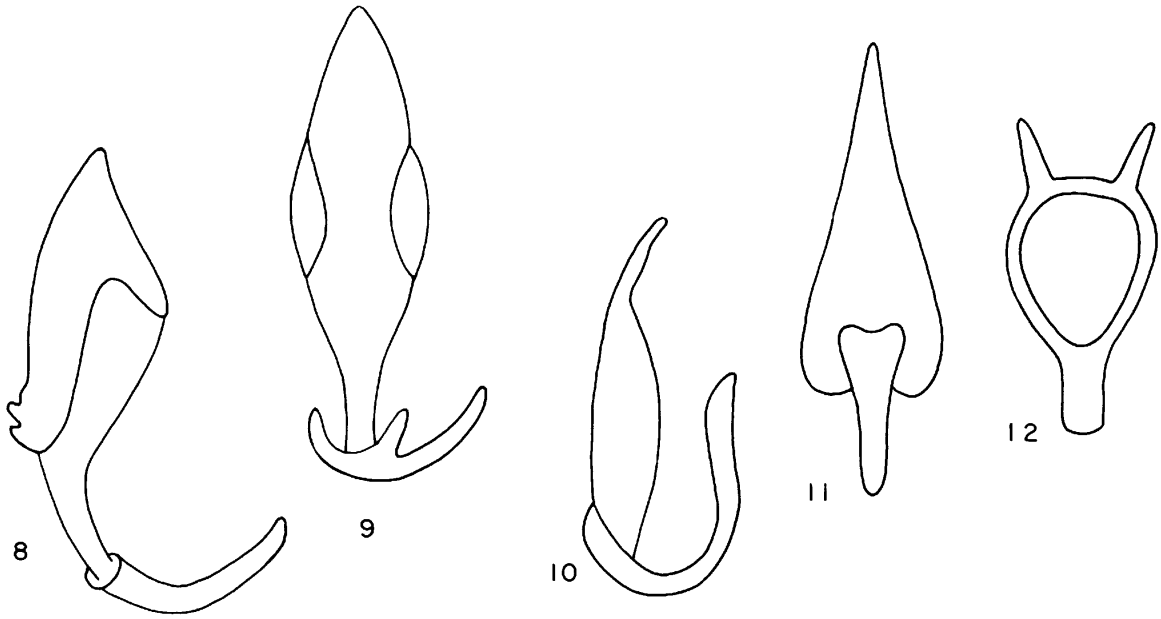
### *Cholomus tenuitarsis* (Heller)
Figure 5

*Huamboica tenuitarsis* Heller, 1917, p. 112 (Colombia; type, female, in Museum für Tierkunde, Dresden, examined).

*Diagnosis*. Similar to *granulicollis* and differing from *villei* and *obliquesignata* in elytral pattern, in having femoral tooth, and in lacking concavity on pronotum. Differing from *granulicollis* in having smooth, not tuberculate pronotum.

*Specimens Examined*. Ecuador, one male (KU); Colombia, one female (type, SM).

*Description*. Length 9 to 12 mm. Pronotum with two lateral yellow stripes of roundish scales; scaly stripes on sides of prosternum, on shoulders of elytra, on elytra in transverse, subapical band,




FIGS. 8-11. Inner armature or basal sclerite of *Cholomus* (larger scale than figs. 4-7). 8, 9. *C. granulicollis*. 8. Lateral view. 9. Dorsal view. 10, 11. *C. obliquesignata*. 10. Lateral view. 11. Dorsal view.

FIG. 12. Tegmen and parameres of *Cholomus*.

and from metepisternum obliquely toward suture near middle of elytra; scales on scutellum and in cluster laterally at apex of abdominal segment 2.

Beak of male feebly decurved at insertion of antenna, of female arcuate. Antenna inserted in front of middle of beak. Pronotum deplanate, with minute, setose punctures or with sides obsoletely tuberculate. Scutellum oblong or transverse. Elytra flat or with transverse depression in front of middle; male with only faint suggestion of lateral carinae at base. Mesosternum of male with abruptly recurved projection; of female as described for *villei*. Femora feebly clavate where minute inner tooth emerges. Aedeagus with apex rounded; basal sclerite not found.

*Discussion*. Having only one male I cannot tell whether the virtual absence of the usual elytral carinae is typical of this individual or of all males of the species.

The oblique elytral stripe is broken and shortened in the female type; in the male specimen it reaches almost to the suture.

*Cholomus granulicollis* (Heller)
Figures 1, 6, 8, 9

*Huamboica granulicollis* Heller, 1917, p. 113 (Sabanilla, Ecuador; type, male, in Museum für Tierkunde, Dresden, examined).

*Diagnosis*. Similar to *tenuitarsis* and differing from other species in having femoral tooth. Differing from all species in tuberculate pronotum which is also convex, not flat or concave.

*Specimens Examined*. Ecuador: Sabanilla, one male (type, SM); Pujo [Puyo?], one female (KU); Macas, one female (KU).

*Description*. Length 11 to 12 mm. Pronotal and prosternal yellow stripes and scales as described for *villei*; scaly stripes also on humerus and on elytra from metaepisternum backward to near suture at point slightly in front of middle of elytra; transverse band in apical fourth in front of callus; cluster of scales laterally at base of metasternum.

Beak feebly arcuate, that of female narrower

and much longer than that of male, with antenna inserted at middle, not in front of middle as in male. Pronotum feebly convex, with rather flat, dense tubercles smaller than scutellum; base medially feebly depressed. Scutellum about as wide as long. Elytra with disc deplanate or (type) transversely depressed in front of middle; male with lateral carinae of dense tubercles. Mesosternum of male with abruptly recurved projection, of female tumid, slightly narrower than diameter of coxa. Femora feebly clavate where minute inner tooth emerges. Aedeagus with apex rounded.

*Discussion*. The scaly elytral pattern with the subapical band present and the dorsal stripes not reaching so far as the declivity of the elytra is about the same as that of *tenuitarsis*. The inner armature of the aedeagus is proportionally smaller than that of *obliquesignata* and in profile is shaped differently. In one of the females (Pujo) there is a series of small granules where the elytral carina is present in the male.

## GENUS *IRENARCHUS* PASCOE

*Irenarchus* Pascoe, 1881, p. 101 (type, by original designation, *Heilipus fossilis* Thomson, 1859).

*Dysmachus* Kirsch, 1869, p. 192 [type, by monotypy, *D. plinthoides* Kirsch, a synonym of *Irenarchus fossilis* (Thompson); preoccupied by *Dysmachus* Loew, 1860, Diptera; synonymized by Champion, 1911].

*Dysmanthus* Marshall, 1946, p. 96 (new name, but not warranted, for *Dysmachus* Kirsch).

*Diagnosis*. Differing from other Cholinae except *Cholomus* as stated under that genus; differing from *Cholomus* in larger size, in having front coxae almost contiguous, not widely separated; and elytra tuberculate, not smooth; otherwise similar to *Cholomus*.

*Range*. Colombia and Ecuador.

*Description*. Length 16 to 22 mm. As described for *Cholomus* except for following: Beak subcylindrical, that of male of *fossilis* not longer than pronotum. Elytra tuberculate-granulate, covered with scales. Front coxae subcontiguous. Metasternum of *fossilis* scarcely as long as diameter of middle coxa because of reduced wings. Femora lacking inner subapical tooth.

*Secondary Sexual Characters of Males*. Beak, antenna, and mesosternal projection as described for *Cholomus*. Elytral humerus of *boviei* with anterolateral sharp tooth opposite basal angle of pronotum.

*Discussion*. The proper synonymy of the genus did not appear in the Junk catalogue until 1939 as an addendum written by Schenkling and Marshall. This was no doubt based on Champion's clarification (1911, p. 276) which I quote:

"The genera *Dysmachus* Kirsch (1869) and *Irenarchus* Pascoe (1881) were each based upon a single species of large size from Colombia, the former upon *D. plinthoides* Kirsch and the latter upon *Heilipus fossilis* Thomson (1859). These insects are synonymous, and therefore Kirsch's generic name has priority; it is, however, preoccupied in Diptera (Loew, 1860) and cannot be used. The species therefore will have to bear the name *Irenarchus fossilis*." As *plinthoides*, the type of "*Dysmachus*" is the same as *fossilis*, the type of *Irenarchus*, Marshall's proposal (1946) of a new name, *Dysmanthus*, was not necessary.

The species of *Irenarchus* were considered in two other subfamilies, the Hylobiinae and the Cryptorhynchinae, before Schenkling and Marshall allocated them to the Cholinae. At first glance I also associated them with the Hylobiinae because of their rostral groove being not quite longitudinal but descending to near the base of the beak. The legs, however, are not at all typical of the Hylobiinae. (For further discussion, see under *fossilis*.)

The aedeagus and tegmen and parameres are similar to those of *Cholomus*, but the inner armature is proportionally larger (almost as long as the median lobe), and the sides of the median lobe are flat, not vertical. A dissected female of each species did not show any apparent differences.

## KEY TO THE SPECIES OF *IRENARCHUS*

Pronotum with scales of disc almost as wide as long and densely overlapping; elytra mostly flat, with base of interval 3 only feebly tumid; scutellum normal in size . . . . . *boviei* Desbrochers des Loges

Pronotum with scales of disc elongate, hairlike, less dense; elytra with six strongly elevated intervals, and with base of interval 3 strongly

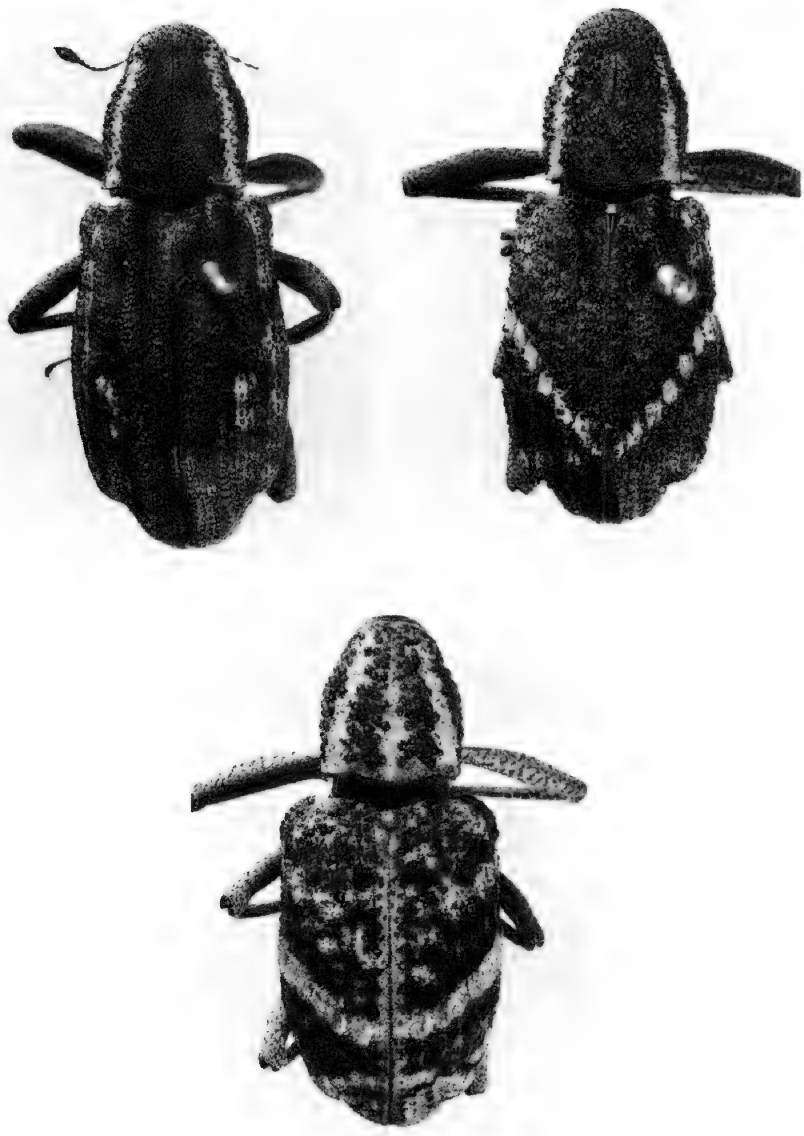
swollen and nodulous; scutellum scarcely larger than pronotal tubercle . . . . . *fossilis* Thomson

*Irenarchus fossilis* (Thomson)
Figures 13, 14, 16-18

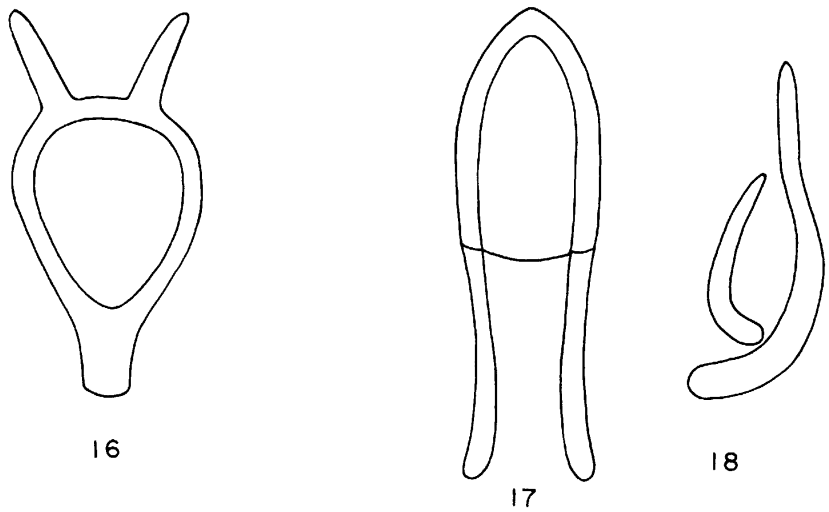
*Heilipus fossilis* Thomson, 1859, p. 129 (Colombia; type, female, in British Museum, examined).

*Dysmachus plinthoides* Kirsch, 1869, p. 192 (Bogota, Colombia; type, male, in Museum für Tierkunde, Dresden; synonymized by Champion, 1911).

*Diagnosis*. Differing from *boviei* in having reduced inner wings, tiny scutellum, two kinds of scales (elongate and roundish), carinate and rough elytra with tumid humerus.



FIGS. 13-15. *Irenarchus*. 13. *I. fossilis*. 14. *I. fossilis*, variation. 15. *I. boviei*.




FIGS. 16-18. *Irenarchus*. 16. Tegmen with parameres. 17. Aedeagus, dorsal view. 18. Inner armature or basal sclerite, same scale as figure 17.

*Specimens Examined*. Colombia: one female (type of *fossilis*, BM), one male (BM); Bogota, one male, one female (KU); Meta: Rio Guayuriba, tributary of Rio Meta, December, 1946, L. Richter, collector, one female (AM); Nova Granada [=Colombia], one, sex not ascertained (BM).

*Description*. Length 18 to 23 mm. Pronotum with tiny, elongate, brownish scales among black tubercles and two lateral stripes of larger, white, roundish, overlapping scales; elytra mostly with brown scales but white scales in lateral stripe on interval 6 from base to callus; also two or three whitish spots on intervals 1 and 4, forming vague oblique stripe to top of declivity; venter with brown and white scales.

Beak of male slightly shorter than pronotum, feebly arcuate, with elongate brown scales, of female at least as long as pronotum, narrower than that of male, virtually straight, scaly in basal area only. Antenna of male at apical third of beak, of female in front of middle. Pronotum with tubercles in great part separated by their own diameter, at base somewhat denser, of about same size as those of elytra; base feebly tumid on each side of narrow depression. Scutellum subtransverse, flat, scarcely larger than two elytral tubercles. Elytra with six wide, rounded, tuberculate carinae, those of intervals 3 and 7 at base erupted as large, elongate nodules advancing beyond base of elytra on to pronotum; carinae with dense, elongate brown scales and two to three rows of tubercles; suture and nonelevated intervals narrower and with one row of tubercles; base trisinuate. Mesosternum of male with feebly recurved projection, of female tumid, densely scaly, as wide as one-half diameter of middle coxa. Metasternum scarcely as long as diameter of coxa. Aedeagus with apex acuminate.

*Discussion*. The generic and subfamilial connections of *fossilis* have been difficult to determine. Thomson (1859) and Champion (1911) considered *fossilis* in the Hylobiinae, Thomson associating it with *Heilipus trachypterus* Germar. Pascoe (1881) included it in his paper on *Heilipus* and allies, but he placed it far from *Heilipus* at the end after *Acalles* and other Cryptorhynchinae. Kirsch (1869) considered it (as "*plinthoides*") also in the Cryptorhynchinae, near *Plinthus* and *Ithyporus*. Blackwelder (1947) placed it near *Cleogonus*, and Marshall (1946) considered it also in the Cryptorhynchinae. The first mention of it in the Cholinae was by Schenkling and Marshall (1939).

The extremely large, cut-out lobes on the front of the pronotum are certainly reminiscent of *Ithyporus* and others of that subfamily, but in *fossilis* the prosternal channel characteristic of the cryptorhynchines as well as a femoral tooth is lacking. The absence of the tooth probably

excludes *fossilis* also from the Hylobiinae, in which the tooth is generally very pronounced. Even in the Cholinae the tooth is present on at least two pairs of legs, but it can be inconspicuous. Subcontiguous front coxae like those in *fossilis* are present in all the Hylobiinae, I believe, and in a few of the other genera of Cholinae. In the four species of *Cholomus*, which are undoubtedly related to *fossilis* in their aberrant characters, the coxae are widely separated and the tooth is absent in only two of the species. Thus it appears that the presence of the tooth, the distance between the coxae, and, I might add, the character of the claws (connate or divergent) are not necessarily reliable characters in this section of the Curculionidae for the limitation of genera or subfamilies.

The advanced anterolateral angles of the elytra are, as stated by Thomson, sharp and almost form an excision of the humerus. The elytral declivity is feebly arcuate, not so steep as that of *boviei*. The elytra are fused together at the suture, and the inner wing is not folded and reaches only to the subapical callus.

Two females not included in the list of specimens examined (one from Colombia in the Kuschel collection and one from Cauca, Colombia, in the museum in Paris) differ somewhat from other specimens and possibly represent a new species. The differences lie in the elytra which are more feebly carinate than those of other specimens, have a distinct V-shaped pattern of white spots (fig. 14) that meet at the suture, and a steeper, more abrupt elytral declivity. The humeri of the elytra are less advanced and less prominently tumid.

The basal sclerite of *fossilis* is not illustrated as it was broken when the aedeagus was dissected again. The pieces, however, as well as the median lobe and the tegmen appear to be rather similar to those of *boviei* (figs. 16-18).

### *Irenarchus boviei* (Desbrochers des Loges)
Figures 15-18

*Dysmachus boviei* Desbrochers des Loges, 1906, p. 371 (Colombia; type, female, in Muséum National d'Histoire Naturelle, examined).

*Diagnosis*. Differing from *fossilis* in having larger scutellum; longer metasternum and full wings; smoother elytra without carinae or swellings; intervals of elytra about equal in width, not alternating narrow and wide; and pronotum trilineate, not bilineate.

*Specimens Examined*. Colombia: one female (type, MN); Muzo, one male (MN), one female (KU); Meta: Rio Guayuriba, tributary of Rio Meta, December, 1946, L. Richter, collector, one female (AM); Honda, one male (KU); Mariquita, one female (KU); Cauca River, 4000 feet, June, 1929, one female (US); Carare, San [Rio Carare], May, 1939, Otoya, collector, one female (US). Ecuador: one female (MN).

*Description*. Length 17 to 21 mm. Pronotum and elytra with dense white or yellow, round scales among black tubercles; scales of pronotum in three stripes; scales of elytra mottled, but whiter scales forming stripe on suture and distinct V-shaped, scaly pattern from base of metepisternum obliquely backward to suture at about apical third; less distinct inverted V-band across callus merging with white scales of apex; indistinct oblique white stripe from humerus to suture in basal third; white stripe on prosternum.

Beak of male longer than pronotum, feebly arcuate, with elongate yellow scales; apex (in profile) slightly thickened ventrally, of female even longer, narrower, same width throughout, feebly arcuate. Antenna as described for *fossilis*. Pronotum with some tubercles, at least, subcontiguous, and larger than those of elytra; base not depressed. Scutellum elevated, oblong, much larger than two elytral tubercles. Elytra deplanate to steep declivity, near base feebly tumid each side of scutellum; intervals 2 and 4 feebly depressed behind tumidity; intervals about equal in width, with dense round scales and single row of tubercles; male with sharp little tooth within humerus. Mesosternum of male with strongly recurved, elongate projection, of female rather flat, scaly, about one-third diameter of middle coxa. Metasternum as long as diameter of coxa. Aedeagus with apex acuminate.

*Discussion*. Desbrochers des Loges in his description of *boviei* made no reference to other species of "*Dysmachus*," but he included it with species of Cholinae. His description antedates Champion's discovery (1911) that *Dysmachus* was preoccupied and that *Dysmachus plinthoides* Kirsch was the male of *Irenarchus fossilis* Thom-

son. Nonetheless, *boviei* and *plinthoides* appear in Blackwelder's catalogue (1947) among the Cryptorhynchinae, still in the genus *Dysmachus* (*Irenarchus* is not listed in Blackwelder).

The elytral declivity of *boviei* is steeper than that of *fossilis* and begins farther forward from the subapical callus. The callus is less prominent than that of *fossilis*. The inner wing is normally long and folded. In the nine specimens examined, the elytral pattern of white scaly lines is distinct, but in two or three specimens the apical white area is darkened. In a specimen from Ecuador and one from Meta, Colombia, a minute second spur, not much more than an angulation, is visible among the hairs of the inner apex of the tibiae. A female of *boviei* and one of *fossilis* were collected at the same time and place on the Rio Meta, Colombia.

The basal sclerite of the aedeagus of *boviei* is almost as long as the median lobe itself.

## LITERATURE CITED

Blackwelder, R. E.
1947. Checklist of the coleopterous insects of Mexico, Central America, the West Indies and South America. Pt. 5. Curculionidae. Bull. U.S. Natl. Mus., no. 185, pp. 791-921.

Champion, G. C.
1911. Note on the Hylobiid genera *Dysmachus* Kirsch and *Irenarchus* Pascoe. Ent. Monthly Mag., ser. 2, vol. 22, p. 276.

Costa Lima, A. da
1956. Insetos do Brasil. Esc. Nac. Agron., Rio de Janeiro, vol. 10, pp. 5-373, figs. 1-260.

Desbrochers des Loges, J.
1906. Etudes sur les curculionides exotiques et descriptions d'espèces inédites. Ann. Soc. Ent. Belgique, vol. 50, pp. 355-372.

Heller, K. M.
1906. Neue Rüsselkäfer. Stettiner Ent. Zeitg., vol. 67, pp. 3-50.
1917. Neue *Huamboica*-Arten (Col. Curculionid.). *Ibid.*, vol. 78, pp. 110-115.

Kirsch, T. F.
1869. Beiträge zur Käferfauna von Bogota. Berliner Ent. Zeitschr., vol. 13, pp. 187-224.
1889. Coleopteren gesammelt in den Jahren 1868-1877 auf einer Reise durch Süde Amerika. Abhandl. Berlin Zool. Mus., Dresden, vol. 2, no. 4, pp. 1-58, pls. 1-4.

Kuschel, G.
1955. Nuevas sinonimias y anotaciones sobre Curculionoidea (1). Rev. Chilena Ent., vol. 4, pp. 261-312.

Loew, H.
1860. Die Dipteren-Fauna Südafrikas. Abhandl. Naturwiss. Ver. Halle, vol. 2, pp. 73-402, 2 pls.

Marshall, G. K.
1946. Taxonomic notes on Curculionidae (Col.). Ann. Mag. Nat. Hist., pp. 93-98.

Pascoe, F. P.
1881. On the genus *Hilipus*, and its neo-tropical allies. Trans. Ent. Soc. London, pp. 61-102.

Roelofs, W.
"1870" [1880]. Description de deux espèces de Cholides et de deux rouvelles espèces de Cryptorhynchides. Compt. Rendus Soc. Ent. Belgique, pp. xxxix-xlv.

Schenkling, S., and G. K. Marshall
1939. Curculionidae. *In* Junk, W., Coleopterorum catalogus. Addenda, Berlin, vol. 30, pt. 168, pp. 3-14.

Thomson, J.
1859. Description de deux Curculionides. Arch. Nat., vol. 1, p. 129.