

American Museum Novitates

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CENTRAL PARK WEST AT 79TH STREET, NEW YORK, N. Y. 10024

NUMBER 2517

APRIL 11, 1973

Revision of *Rhinastus* and Description of a New Species of *Cholus* (Coleoptera, Curculionidae, Cholinae)

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ABSTRACT

The two species of *Rhinastus* (*sternicornis* and *latisternus*) are summarized in their ecology (pests of bamboo), geographic range (South America), and taxonomy. The genitalia are discussed and illustrated for the first time. A similar appearing, but quite different species, *Cholus mimus*, is described from Peru and Bolivia.

INTRODUCTION AND ACKNOWLEDGMENTS

The present paper reviews the data on the biology of the two species of *Rhinastus* (tribe Rhinastini), adds distributional records, illustrates the genitalia, discusses the systematics, and describes an unusual new species of *Cholus*. This species superficially so strongly resembles the species of *Rhinastus* that I include its description here for ready comparison with *Rhinastus* (figs. 18–21, 31, 32).

Costa Lima and Seabra (1955) reviewed the species of *Rhinastus*, using specimens in the collections of Seabra, of the Escola Nacional de Agronomia, and of the Instituto Oswaldo Cruz, Rio de Janeiro. I have had access to many more specimens (371), some of which extend the range of the species to additional states of Brazil and to Peru and Argentina for *R. sternicornis*, and to Peru and Bolivia for *R. latisternus*. I have also investi-

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gated the genitalia, which in the male lack the sclerotized armature present in some genera of the subfamily at the base of the median lobe.

Specimens were seen from the American Museum of Natural History; the Muséum National d'Histoire Naturelle; the British Museum (Natural History); Museu de Zoologia, São Paulo; Museum für Tierkunde, Dresden; Universitetets Zoologiske Museum, Copenhagen; the Polish Academy of Sciences, Warsaw; and the Entomology Division, Department of Scientific and Industrial Research, Nelson, New Zealand. I am grateful to these institutions and their curators, and also to Dr. Guillermo Kuschel, Nelson, New Zealand, and to Dr. Charles W. O'Brien, Lubbock, Texas, for the opportunity to examine material. The photographs were taken by Robert E. Logan of the American Museum of Natural History, and the drawings were inked by the Graphic Arts Department of the same museum.

The species of *Rhinastus* are large, broad, flattened, yellow-scaled weevils with exceedingly long beaks and legs and striking sexual dimorphism. Although one species was described as early as 1824, it was not until the present century that Costa Lima (1916) reported them breeding in and damaging bamboos in South America (in Argentina, Bolivia, Brazil, and Peru). Later Bondar (1920), Andrade (1928), and Araujo e Silva (1968) discussed their habits.

BIOLOGY OF *RHINASTUS*

In both species the larvae develop in the internodes of various bamboos. The anatomy of the larva of *R. sternicornis* was described by Costa Lima (1916) and repeated by Andrade (1928). Andrade discovered the "truly curious fact" that the larvae are cannibalistic. When he opened a segment of a bamboo he found the larvae numerous when small (six to 10 in each internode), but at a later stage there was only one large fat larva present. At one time he watched a large larva eat a small one. He reported that the Indians of Brazil considered the larvae a great delicacy. Andrade's remarks refer to *R. sternicornis*, but the excellent photographs in his paper depict *R. latisternus*. Photographs are given also of larvae, pupae, and damaged segments of a bamboo, showing the exit holes of the adult. In his abstract, Andrade wrote, "The females puncture the young bamboo shoots, always less than a year old, depositing one egg in each perforation. The eggs usually hatch within 6 to 10 days; 15 days being the maximum observed . . . In Rio Claro [state of São Paulo] adults have been captured during different months of the year, however they become more common during January and attain their maximum abundance during March. Copulation is very prolonged and can continue up to 36 hours. After copulation the insects live, on an average, 7 to 8 days. About 50% of the adults

are males." The last sentence is in agreement with the specimens I examined; I saw 99 males and 98 females of *sternicornis*.

According to Costa Lima (1916), *R. sternicornis* was found for the first time in July, 1915, in Hansa Humboldt, Santa Catarina, Brazil, where it was attacking the giant cane (*Chusquea gaudichaudi*). Other plants damaged (Araujo e Silva, 1968) are the common bamboo (*Bambusa vulgaris*), the imperial bamboo (*Phyllostachys castillonis*), the small cane, "taquarinha" (*Arundinaria* sp.), Indian cane and crissiuma cane (*Chusqueae* sp.).

For *latisternus*, Araujo e Silva (1968) listed also *Arundinaria* sp., and the common bamboo, in addition the Indian bamboo (*Bambusa arundinacea*) and "taquara" or *Merostachys* sp. Araujo e Silva gave the giant bamboo (*Dendrocalamus giganteus*) for *sternicornis*, but Andrade (1928) had said that because of the thickness of its stalk, this bamboo was not attacked.

Of the specimens I have examined, a male and female of *sternicornis* were collected "en oco de taquara" at Sozano, São Paulo, by V. Godoy; a female "em entre-nó de taquara" at Salesopolis, São Paulo, by J. Oliveira Santos; and a male in "taquarussú" [= *Chusquea gaudichaudi*] at Itatiaia, Rio de Janeiro, by Charles W. O'Brien. A female of *latisternus* was collected at El Boqueron, Peru, in November, by F. A. McClure, "laying eggs in young shoots of Paca Guada sp." (I was unable to find Paca Guada, but there is a genus *Guadua* which is a taquarussú.)

GENUS *RHINASTUS* SCHOENHERR

Rhinastus SCHOENHERR, 1826, p. 262 (type, by monotypy, *Cholus sternicornis* Germar, 1824).

DIAGNOSIS: Large, yellowish, flattened species with extremely long legs and beak; elongate head and small, round, widely separated eyes; wide, transverse pronotum; a prosternal projection; one visible hook or spur only at outer apex of tibiae; large first tarsal segments (fig. 6). Differing from other genera in having sharp lateral carina on outer edge of elytra from humerus almost to apex, base of elytra within humerus on each side feebly or strongly emarginate, and male with beak ventrally dentate (or tuberculate) and hairy.

DESCRIPTION: Fresh specimens with dense, reclining yellowish or grayish hairs or scales on all surfaces except where black tubercles or granules rise above them. Length 15 to 37 mm. Mandibles with inner surface smooth. Head elongate, in lateral view at least twice length of eye. Eyes round, prominent, set far forward on head, narrower than width of base of beak (in lateral view), widely separated dorsally by base of beak. Labium elongate, with postmentum of male tumid and angulate, of female, flat. Mouth with conspicuous brush of golden hairs. Antenna inserted at or

behind middle of beak; scape of male separated from eye by diameter of eye, of female by only one-half diameter of eye; funicle with segment 1 longer than each of following segments which are scarcely longer than wide; terminal segment 7 pressed close to club, seeming part of it. Pronotum without postocular lobe; vibrissae short. Scutellum broadly oval, densely pubescent. Elytra with lateral margins from humerus to subapical callus carinate; basal margin laterally sinuate or excavate.

Prosternum in front not emarginate, between front coxae armed with process. Coxae widely separated by at least diameter of coxa. Mesepimeron ascending. Metasternum slightly longer than diameter of coxa. Metepisternum with front border tumid. Abdomen with segment 2 at middle shorter than 1 and almost as long as segments 3 and 4 combined.

Femora toothed on inner margin; hind femur reaching to beyond apex of elytra. Tibiae rather compressed, not toothed on inner margin; front tibia with single apical spur hidden in hairs, incurved at apex; middle and hind tibiae with single spur (uncus) on outer side and extending forward; inner apex flattened obliquely, and hairy; hind tibia with outer comb (or fringe) of setae situated in about apical half of tibia (fig. 17), and longer than apparently short inner comb (in some specimens inner comb long but interrupted); middle tibia with inner comb apparently absent. Tarsus with segment 1 longer and wider than 2; segment 2 transverse; segment 3 bilobed to near base. Claws free. Aedeagus with parameres, but median lobe lacking inner armature (or basal sclerite).

SEXUAL DIMORPHISM: In addition to the differences between the sexes given above in the description (for the labium and the antennal scape) and in the key below (for the beak, the prosternal process, and the elytra), there may be mentioned the following: the beak of the male, especially at the base, is about twice as thick as that of the female, and is compressed laterally, not flattened at the apex as that of the female; the dorsal-lateral carinae of the beak are distinct in the male, but obsolete in many females; the antennal groove of males is nearly four times wider than the antennal scape, widening toward the base of the beak where it opens onto and is as wide as, the eye; in females the groove is narrower and deeper; the base of the pronotum of males is laterally emarginate opposite the emargination of the elytra whereas that of the female is merely sinuate or straight.

REMARKS: Schoenherr in 1826 made *Rhinastus pertusus* Dalman the type of the genus, but as no description of *pertusus* was given until 1836, the name was a *nomen nudum* in 1826, and the second name mentioned by Schoenherr, *sternicornis*, becomes the type. Actually, *pertusus* and *sternicornis* are, respectively, the male and female of the same species, a fact first discovered by Roelofs ("1870" [1880]).

A specific name of Dejean and one of Dupont which have appeared in catalogues are omitted as *nomina nuda*, having not been described.

Lacordaire (1866) wrote that *Rhinastus* was a most remarkable genus and one of the best characterized genera of the subfamily.

Marcu (1931) found that specimens of *Rhinastus*, as in many other genera of weevils, made a stridulating noise by rubbing the inner edge against the stridulating part on the underside of the apex of the elytra.

The genitalia (figs. 1-5, 7-11) of the two species are quite similar, the only parts that differ appreciably being the apical part of the aedeagus (or median lobe) and the eighth sternite of the female. *Rhinastus* differs from some genera (*Amerhinus*, *Dionychus*, *Homalinotus*, *Odontoderes*, *Ozopherus*, etc.) of the subfamily in lacking a basal sclerite (or inner armature) at the base of the median lobe. The absence of this sclerite is not unusual in the subfamily, and in some genera the parameres also are lacking. In the many species at present included in *Cholus*, parameres and the basal sclerite can be present or not, or one or the other can be present.

KEY TO THE SPECIES AND SEXES OF *Rhinastus*

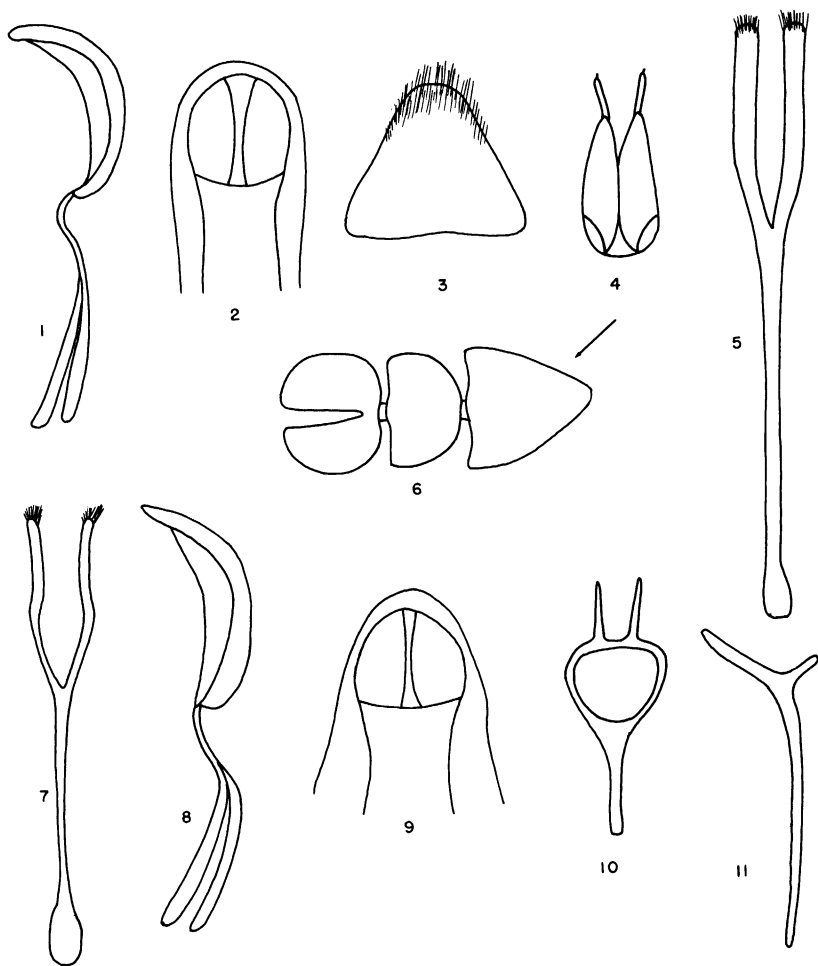
1. Beak ventrally denticulate, hairy; prosternal process large, as long as at least diameter of coxa, apically truncate or lanceolate; elytra with basal margin near humerus, deeply excised and forming a hole visible to the naked eye males, 2
 Beak ventrally smooth and glabrous; prosternal process small, shorter than coxa, in shape an acute cone; elytra with basal margin near humerus feebly emarginate or merely sinuate females, 3
2. Prosternal process, viewed dorsally, capstan-like in shape, wider at apex than at middle; apex rounded-truncate; elytra arcuately dilated at their base *sternicornis*
 Prosternal process, viewed dorsally, lanceolate or tongue-like in shape, narrower at apex than at middle; apex bluntly acuminate; elytra not dilated at base *latisternus*
3. Elytra strongly narrowed to apex; pronotum laterally and medially with tubercles, if visible, fewer and much smaller and usually at least partly covered with scales *sternicornis*
 Elytra less strongly narrowed to apex; pronotum laterally and medially with tubercles more abundant, much larger (as wide as an antennal segment), and devoid of scaly covering *latisternus*

Rhinastus sternicornis (Germar)

Figures 1-5, 12, 13, 18, 19

Cholus sternicornis GERMAR, 1824, p. 214 (Brazil, type, female, probably in Halle, Germany).

Rhinastus pertusus DALMAN, 1836, p. 557 (Brazil, type, male, not found in Naturhistoriska Riksmuseet, Stockholm).



FIGS. 1-6. *Rhinastus sternicornis*. 1. Aedeagus, lateral view. 2. Apex of aedeagus, larger scale. 3. Female, tergite 8. 4. Female, hemisternites with long styli; characteristic also of *R. latisternus*. 5. Female, sternite 8. 6. Hind tarsus, showing large segment 1 (hairs not shown).

FIGS. 7-11. *Rhinastus latisternus*. 7. Female, sternite 8. 8. Aedeagus, lateral view. 9. Apex of aedeagus, larger scale. 10. Male, tegmen with ring and parameres; characteristic also of *Rhinastus sternicornis*. 11. Male, sternite 9.

DIAGNOSIS: Very similar to *latisternus* in yellowish vestiture, diamond shape, and some secondary sexual characters, but *sternicornis* usually larger, differing dorsally as stated in key above (couplet 3); in addition,

elytral tubercles of *sternicornis* seldom visible, being covered by omnipresent yellow hairs, but generally those of *latisternus* present and exposed.

RANGE: Probably all of Brazil and northern Argentina; one specimen from "Peru." Specimens examined: 99 males, 98 females, 20 sex not noted.

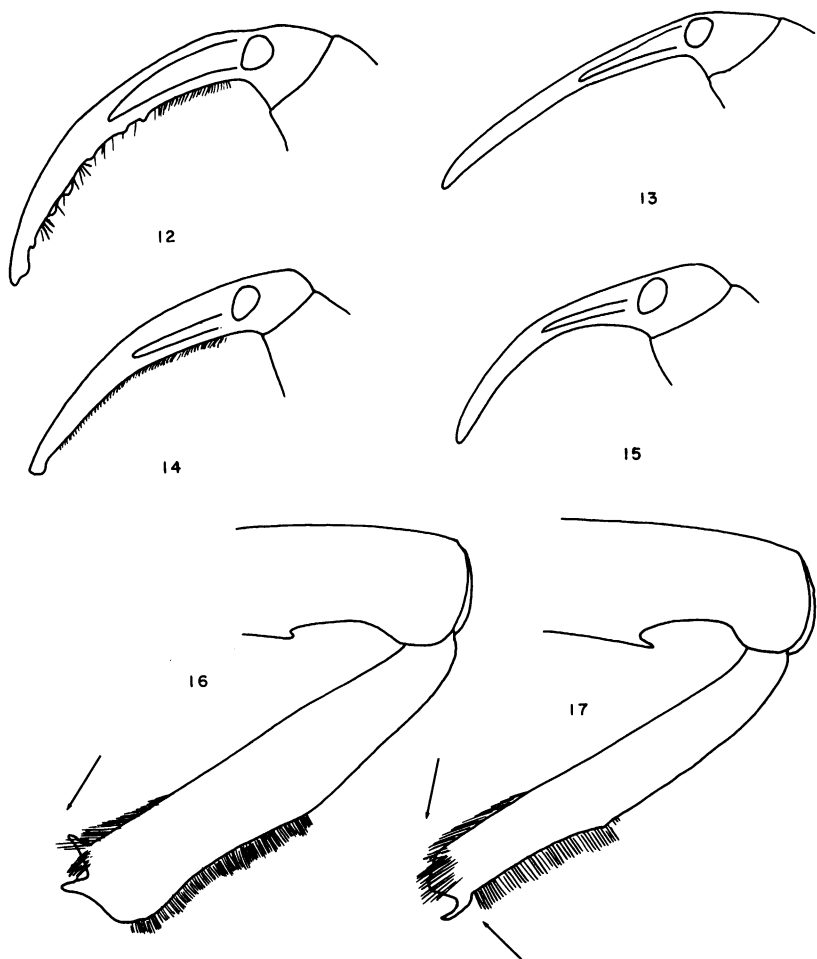
DESCRIPTION: Length 18 to 37 mm. As described for the genus with the following additions: Beak strongly arcuate, as long from eye to apex as about two-thirds length of pronotum and elytra together, medially carinate, laterally beak of male strongly narrowing from base to apex, of female almost same width throughout (figs. 12, 13); ventrally, male with double row of hairs and of irregularly spaced small teeth of unequal size, female with ventral surface glabrous. Antenna with funicle and club hairy; club bulbous, short, only slightly longer than last two segments of funicle. Pronotum with sides at base strongly arcuate, in males more bulbous, thence convergent to apical constriction which is more distinct in male; surface rather convex on each side of narrow, shallow median depression; tubercles widely spaced, but in most specimens hidden by yellow pubescence; hind angles rounded, usually hidden under base of elytra; base at sides within angles emarginate in male, straight in female. Elytra with basal margin laterally deeply excised in male, sinuate in female; humeral lobe rounded off in front, overlapping basal angle of pronotum; lateral margins at base arcuately expanded, more so in large males than small ones, but not expanded in females.

Prosternal process of male longer than diameter of coxa; in dorsal view narrower at middle than at apex where rather truncate; in lateral view a blunt cone tilted slightly upward; process of female an acute cone not longer than one-half diameter of coxa. Genitalia as in figures 1 to 5.

REMARKS: Although Roelofs ("1870" [1880]) had suspected that *R. pertusus* was the male of *sternicornis*, and Costa Lima (1916) synonymized the two forms, it was not until 1936 that Costa Lima verified his belief by dissecting a number of specimens. I have not found the types of either form, but the discussion by Guérin-Méneville (1844) of *pertusus*, *sternicornis*, and *latisternus* leaves no doubt of the characteristics of each. Nonetheless, when Andrade (1928) wrote on the biology of *sternicornis*, he illustrated it with photographs of *latisternus*, as pointed out by Costa Lima and Seabra (1955).

The granulations of the pronotum and elytra are variable. In some examples the granules of the elytra cannot be seen and those of the pronotum are mere pinpricks; in other examples the granules are readily visible. The color of the vestiture varies from pale to deeper tan or yellow; I have not seen any specimens with the whitish coloration present in some *latisternus*.

The expansion of the lateral margin at the base of the elytra is not



FIGS. 12-15. Beaks of *Rhinastus* and *Cholus*. 12, 13. *R. sternalis*. 12. Male. 13. Female. 14, 15. *Cholus mimus*. 14. Male. 15. Female.

FIGS. 16, 17. Left hind leg. 16. *Cholus mimus*, showing two apical spurs on tibia and longer apical comb. 17. *Rhinastus*, showing single spur on tibia, flattened inner apical angle, and shorter apical comb.

restricted to *Rhinastus*, as it is present in males of a few other members of the subfamily, but I have not seen any other species with such a deep excision forming a hole within the humerus. In one of the largest males encountered (32 mm.), the pronotum measured 18 mm. wide and 11 mm. long; the elytra of this male at the expanded part was 20 mm., whereas

the width at the apex of the elytra just behind the callus was only 7 mm. In some males the apex of the prosternal process becomes worn and is then no wider than the remainder of the process. Two males and two females were dissected.

The species has been illustrated by Heyne and Taschenberg (1908), and Bondar (1920).

Rhinastus latisternus Guérin-Ménéville

Figures 7–11, 20, 21

Rhinastus latisternus GUÉRIN-MÉNEVILLE, 1844, p. 159 (Bolivia, type, male, not found).

Rhinastus granulatus ROELOFS, "1870" [1880], p. xxxix ("Indiens Guarayos" [= Guarayos, Bolivia], type, male, in Institut Royal d'Histoire Naturelle, Brussels, examined).

DIAGNOSIS: At first view *latisternus* might be considered only an abraded example of *sternicornis*, but it differs in having much larger, more convex, denuded tubercles covering a more extensive surface both dorsally and ventrally and in male sexual characters.

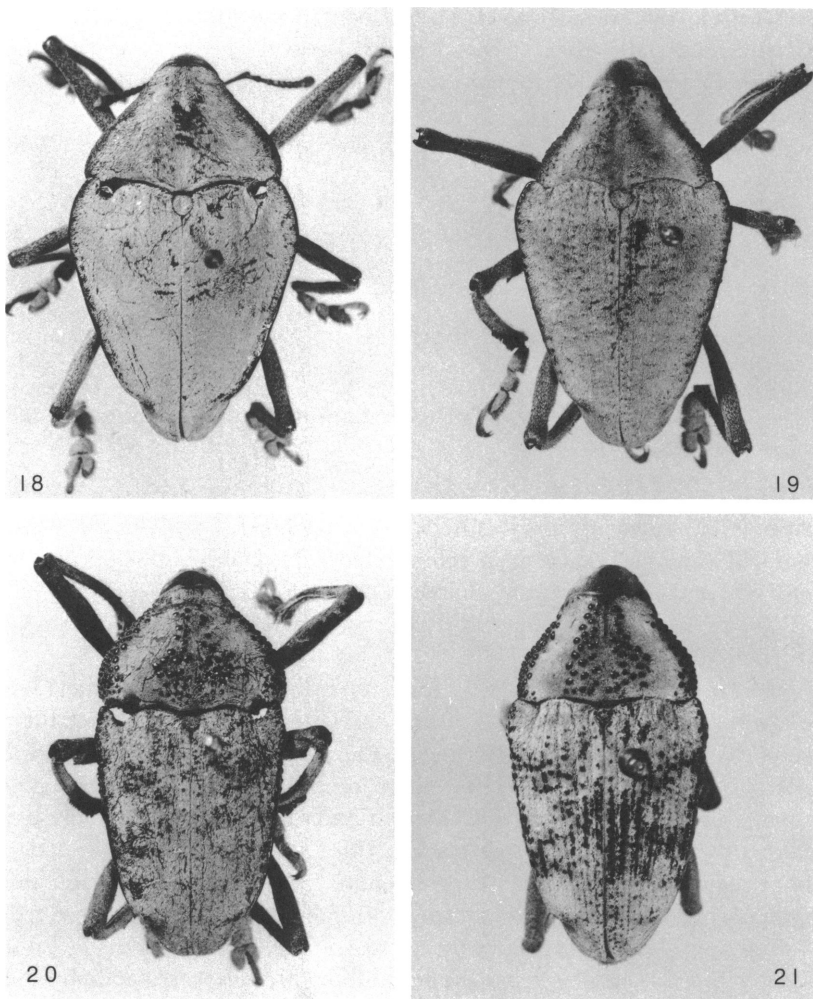
RANGE: Brazil, Bolivia, and Peru. Specimens examined: 74 males, 80 females.

DESCRIPTION: Length 15 to 32 mm. (one male, 12 mm.). Surface with yellowish, grayish, or whitish scales or hairs interspersed with black tubercles. Beak and antenna as described for *sternicornis*, but beak of male with ventral teeth more uniform and more numerous. Pronotum with sides arcuate from base to feeble apical constriction; surface convex, more so in male; tubercles spread across median third and laterally, separated by about their diameters, in most specimens as large as diameter of antennal segment, black, shining; base at sides within hind angles (when freed from overlapping elytra) deeply emarginate in male, feebly in female. Elytra as described for *sternicornis* but humeral lobe in many cases acuminate in front and lateral margins not expanded.

Prosternal process of male longer than diameter of coxa; in dorsal view narrowing from middle to lanceolate apex; in lateral view like a ledge or platform; process of female as described for *sternicornis*. Genitalia as in figures 7 to 11.

REMARKS: According to Kuschel (1955), the Cholinae attributed to Chevrolat in the catalogues are Guérin's species. In this work (Guérin-Ménéville, 1844) the species described by Chevrolat are signed by him whereas all others, as *latisternus*, were described by Guérin-Ménéville.

The characters of the male of *latisternus*, as described in detail by



FIGS. 18-21. *Rhinastus*. 18, 19. *R. sternicornis*. 18. Male. 19. Female. 20, 21. *R. latisternus*. 20. Male. 21. Female.

Guérin-Méneville are so diagnostic that it seems evident that Roelofs, who also described a male (as *granulatus*), did not know the earlier description. He compared his *granulatus* with "*pertusus*" and *sternicornis* only. Roelofs's species was synonymized by Kuschel (1955) as well as by Costa Lima and Seabra (1955). The latter authors described the female of *latisternus*, noting that the prosternal process was not quite so long as that of *sterni-*

cornis. The beak of females in specimens of equal size is somewhat broader and taller in *latisternus*. In spite of the similarities of the two species, once one has recognized the differences of elytral shape and general granulation, they can be readily differentiated. In general also, *latisternus* has a mottled black and yellow aspect in contrast to the usually uniformly smooth yellow of *sternicornis*.

Four males and one female were dissected.

SPECIMENS EXAMINED

Rhinastus sternicornis (Germar)

ARGENTINA: 1; La Plata, 1.

BRAZIL: 42; Amazonas: Manaus, 2. Minas Gerais: Sete Lagoas, 1; Lassaca, 1; Mar d'Hespanha, 1; Manhumirim, 2. Espírito Santo: 4. Rio de Janeiro: 34; Itatiaia, 5; Mendes, 13; Organ Mountains, near Tijuca, 15; Floresta da Tijuca, 6; Angra dos Reis, Ilha Gipoia, 1. Goyaz: Jatahy, 1. São Paulo: 3; Sozano, 2; Salesopolis, Estação Biológico Boraceia, 1; Ypiranga, 1; Itaquaquecetuba, 6. Santa Catarina: Blumenau, 5; Hansa Humboldt, Corupa, 32; Rio Natal, 1. Rio de Janeiro or Santa Catarina: Petropolis, 2; Fazenda Sucavão, Therezopolis, 2. State?: Alto Rio do Testa, 2; Itoupavazinha, 3.

PERU: 1.

NO LOCALITY: 25.

Rhinastus latisternus Guérin-Ménéville

BOLIVIA: 15; Isiamas, 6; Rurrenabaque, Rio Beni, 3; Yungas, 7; Rio Songo, 4; Corales, 2; Guarayos, 1; Santa Cruz, 2; Province of Sara, 1; Cavinassas Rio Beni, 1.

BRAZIL: 3; São Paulo, 6; Piracicaba, São Paulo, 11; Sete Lagoas, 4; Curitiba, Parana, 2; Rio Claro, São Paulo, 6; Campinas, 2; Jatahy, Goyaz, 1.

PERU: 8; Chanchamayo, 7; Pachitea, 1; Middle Rio Ucayali, 1; Rio Huallaga, 1; El Boqueron, 1; Marcapata, 25; Satipo, 3; Madre de Dios, 4; Huanuco, 5; Mapiri, 1.

NO LOCALITY: 21.

The species described below belongs in the tribe Cholini which differs from the Rhinastini (and *Rhinastus*) in having the first tarsal segment actually and proportionally smaller, the first segment being narrower, not wider, than the second, and usually more constricted at the base (figs. 6, 30). In some of the Cholini the first segment is even more strongly narrowed toward the base than that of the species here described, and possibly this is not a definitive tribal character. Correlated with this tarsal character, however, is the tibial armature of two apical pincer-like spurs (uncus and mucro) in the Cholini, and only one (uncus) at the outer apical angle or both spurs rudimentary in the Rhinastini (figs. 16, 17).

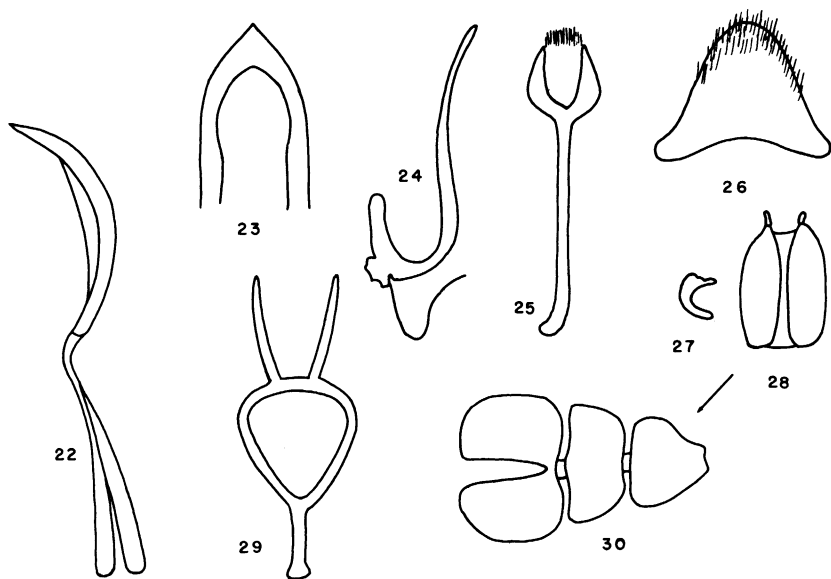
The present species might be described in a genus by itself, as it is separable from other genera on a combination of characters, but in the unrevised state of the subfamily, which has already 14 monotypic genera,

I think it best to place it in *Cholus* (about 200 species) where there are at present many disparate forms. It is certainly not like the type species of the genus, the small, white-striped, black *albicinctus* Germar, but neither are the majority of *Cholus*. Until *Cholus* has been adequately defined and broken down into more natural groupings, it can absorb yet one more species. Even *Rhinastus sternicornis* was described first in *Cholus*.

***Cholus mimus*, NEW SPECIES**

Figures 22–32

TYPE MATERIAL: Type, male, Rio Ucayali, Peru, September 27, 1923, H. Bassler, collector; and paratype, female, from Satipo, Jauja Province, Peru, February, 1947, in the American Museum of Natural History; 11 additional paratypes: Satipo, one male; Santa Cruz, Bolivia, four males and two females, and Buena Vista, Santa Cruz, one female, all in the collection of G. Kuschel, Department of Scientific and Industrial Research, Nelson, New Zealand; Buena Vista, Ichilo [River?], department of Santa Cruz, 1952, one female in the collection of C. A. Campos Seabra, Rio de



FIGS. 22–30. *Cholus mimus*. 22. Aedeagus, lateral view. 23. Apex of aedeagus, larger scale. 24. Basal sclerite of aedeagus, larger scale. 25. Female, sternite 8. 26. Female, tergite 8. 27. Female, spermatheca. 28. Female, hemisternites, with very short styli. 29. Male, tegmen with ring and parameres. 30. Hind tarsus with small segment 1 (hairs not shown).

Janeiro; Chanchamayo, Peru, May, one male in the National Museum of Natural History, Washington, D. C.; and Peru, without further locality, January 3 to 10, 1903, W. Schnuse, collector, one female in Museum für Tierkunde, Dresden.

DIAGNOSIS: Resembling the genus *Rhinastus* superficially in size and yellow color and overlapping scales, but differing from all species of the Cholinae in having a combination of the following characters: a long outer comb (fringe) of setae in apical half, not apical third of middle and hind tibiae; a proportionally small, round eye; a flat prosternum without median projection; no postocular lobe; hairy antennal segments; short hind femora that do not reach apex of elytra; a wide front intercoxal space (about one-half diameter of coxa); male with a dilated, overhanging "apron" at basal third of elytra, a double row of hairs and apical angulations under beak, and a broad, upturned hook on each front coxa; even in the female there is a slight coxal hook which is more like a tubercle.

RANGE: Peru and Western Bolivia.

ETYMOLOGY: The Latin name, meaning an imitator or mimic, is given to this weevil because of its resemblance to *Rhinastus sternicornis* and *latisternus*.

DESCRIPTION OF TYPE: Length 25 mm. Surface with yellow scales and hairs except where black tubercles or granules emerge. Mandibles with inner margins smooth. Eyes more or less round, convex, set far forward on head, narrower than width of base of beak (in lateral view), dorsally widely separated by base of beak. Head elongate, in lateral view about twice diameter of eye. Labium elongate, with postmentum about as wide as long, feebly convex, wider and longer than prementum. Beak arcuate, cylindrical, almost twice length of pronotum; dorsally carinate medially, scaly in basal half; laterally with base twice as wide as apex; ventrally with double row of dense yellow hairs from base to apex; apex tumid on each side, in lateral view angulate. Antennal groove scarcely wider than scape and directed linearly to base of eye; antenna inserted slightly in front of middle of beak; scape not reaching eye, separated from it by diameter of eye; funicle with segment 1 longer than 2; segment 2 longer than 3 to 7 which are transverse; terminal segment 7 pressed close to club and seeming part of it; all segments densely hairy; club small, bulbous, no wider than segment 7 and not longer than last two segments of funicle combined.

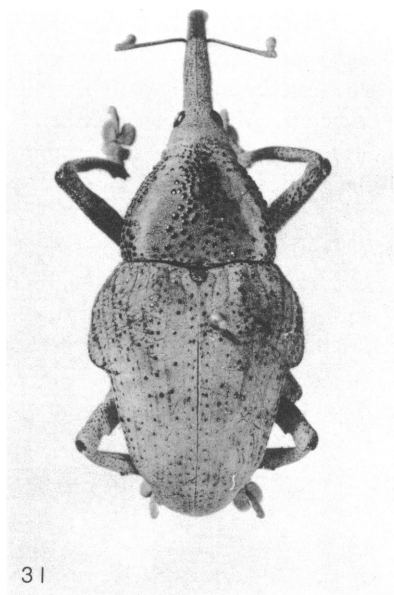
Pronotum without postocular lobe; vibrissae short; surface convex; sides feebly arcuate to feebly constricted apex; in median third, at base, and on lateral margins with rather dense black tubercles interspersed with fine, dense yellow hairs; lateral stripe on each side composed of overlapping yellow scales; basal margin straight, partly hidden by base of

elytra. Scutellum shield-shaped, black, finely hairy. Elytra with basal margin straight; sides in basal third widely dilated in a large semicircular "apron" overhanging sides of elytra; outer margin of "apron" with row of black tubercles; interval 3 near base distinctly tumid; surface with dense, overlapping yellow scales except where, in basal half, single rows of widely separated, tiny black tubercles visible.

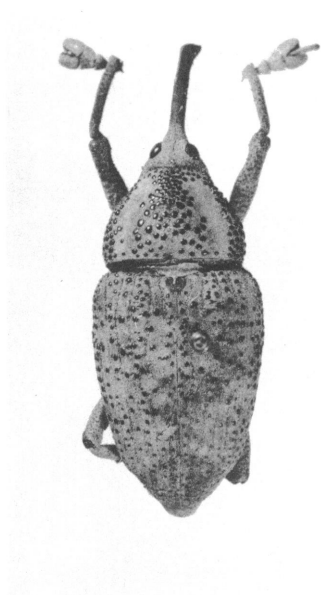
Prosternum in front not emarginate, without projection or process. Front coxae separated by more than one-half diameter of coxa; apex with broad, upturned hook among abundant yellow hairs; middle coxae separated by about one-half diameter of coxa. Mesepimeron ascending. Metepisternum flat. Abdomen with segment 2 at middle shorter than 1 and about as long as segments 3 and 4 combined. Femora toothed inconspicuously on inner margin about one-third from apex; hind femur not reaching apex of elytra. Tibiae rather compressed; inner margin not toothed; apex uncinat and mucronate (two apical spurs); middle and hind tibiae with outer comb in apical half of tibia; hind tibia with outer comb longer than very short (only 6 or 7 setae) inner comb; middle tibia with inner comb apparently absent. Tarsus with segment 1 longer and narrower than 2; segment 2 strongly transverse; segment 3 bilobed to near base. Claws free. Aedeagus with apex acuminate; parameres and sinuous basal sclerite present (figs. 22-24).

VARIATION FROM TYPE: The female differs from the male in having the beak more slender, more arcuate (figs. 14, 15), in some specimens less scaly; the underside smooth, not hairy, and finely punctate, the ventral apex flat, not tumid; the scape reaching almost to the eye; the front coxae prolonged feebly to a tubercle but without a large projection; the elytra not dilated basally, but with three or four rows of dense tubercles in the area that is dilated in the male; the third interval of the elytra at base only feebly tumid. The female paratypes seem to have more tubercles on the elytra, but this may be due to abrasion of the scales. The paratypes range in length from 20 to 26 mm. In one or two paratypes the scales are more grayish than yellowish; in three or four the elytral tubercles are dark red instead of black.

REMARKS: The majority of species now in *Cholus* differ from *mimus* chiefly in having large eyes which are as wide as the width of the base of the beak (in lateral view), not narrower. *Cholus* and other genera of the Cholini can differ further from *mimus* in the shape of the eyes, in the mandibles, in the width separating the front coxae, in the width of the tarsi, in the length of the outer apical comb of the tibiae, in various sternal projections, in tibial or femoral teeth, in the claws, in the postocular lobe, and in secondary sexual characters. In some species now in *Cholus*, in-



31



32

FIGS. 31, 32. *Cholus mimus*. 31. Male. 32. Female.

cluding the type of the genus (*albicinctus* Germar), parameres and/or the inner armature (basal sclerite) are lacking in males, but in other *Cholus*, as in *mimus*, they are present. The sclerite (shown enlarged in fig. 24), which is found at the base of the median lobe, is similar in shape to that found in a number of species of *Homalinotus* and in *Ozopherus muricatus* Pascoe, and other genera. It is lacking, however, in *Rhinastus*.

A few of the unusual characters of *mimus* appear elsewhere in the genus. A number of species have male coxal hooks. I have seen two or three apparently undescribed species, as well as *Cholus dilatatus* (Taschenberg), in which males have a dilated elytral "apron" or "saddle" as in *mimus*. There are also other species with a long outer comb on the tibiae. One of these, *miliaris* Olivier, is about the same size and shape as *mimus*, and has also a very short inner comb at the apex of the middle tibia, but *miliaris* has no external male characters and differs further in having much larger eyes, large black tubercles covering the dorsal surface, and the seventh antennal funicular segment separate from the club; *parvus* Fahraeus, which in the male also has coxal hooks, differs in being black with minute white

dots, having large eyes, narrower front intercoxal space, the front femur not dentate, and the inner tibial comb longer.

Viewed from above, a female of *mimus* could readily be mistaken for a female of *Rhinastus latisternus*, but could be distinguished by the smaller first tarsal segments, the absence of a prosternal projection, the straight, not emarginate, bases of the pronotum and elytra, the shorter hind femora, different tibial armature and genitalia (figs. 25–28), and less prominent eyes. The male of *mimus* is distinguished at once by the overhanging basal dilation.

Of the characters of *mimus* given above in the Diagnosis, those that are similar to *Rhinastus* are the coloration, the long tibial fringe, the absence of a postocular lobe, the hairy antennal segments, and the small, round eye set far forward on the elongate head, but the head of *Rhinastus* species is even more elongate.

Four males, including the type, and one female were dissected.

LITERATURE CITED

ANDRADE, E. NAVARRO DE

1928. Praga dos bambús (*Rhinastus sternicornis* (Germ.)). Arch. Inst. Biol. São Paulo, vol. 1, pp. 137–142, pls. 22, 23.

ARAÚJO E SILVA, A. G. DE, ET AL.

1968. Quarto catalogo dos insetos que vivem nas plantas do Brasil. Ministerio Agr., Rio de Janeiro, vol. 1, pt. 2, pp. 1–622.

BONDAR, G.

1920. O gorgulho bicudo do bambú. Chacavas Quintas, São Paulo, vol. 22 (4), p. 290, figs. 3–5. [Not seen.]

COSTA LIMA, A. DA

1916. Sobre alguns Curculionidas que vivem nos bambús. Mem. Inst. Oswaldo Cruz, vol. 8, fasc. 1, pp. 41–43.

1936. Terceiro catalogo dos insectos que vivem nas plantas do Brasil. Esc. Nac. Agron., Rio de Janeiro, pp. 1–460.

COSTA LIMA, A. DA, AND C. A. CAMPOS SEABRA

1955. Notas sobre *Rhinastus* and *Homalinotus*. Mem. Inst. Oswaldo Cruz, vol. 53, pp. 421–434.

DALMAN, J. W.

1836. [New species.] In Schoenherr, C. J., Genera et species curculionidum. Paris, vol. 3, pp. 1–858.

GERMAR, E. F.

1824. Insectorum species novae. Halle, vol. 1, pp. 1–624.

GUÉRIN-MÉNEVILLE, F. E.

1844. Iconographie du règne animal de G. Cuvier . . . Insectes. Paris, vol. 7, pp. 5–576.

HEYNE, A., AND O. TASCHENBERG

1908. Die exotischen Käfer in Wort und Bild. Leipzig, pp. 3–262, pls. 1–39.

KLIMA, A.

1936. Curculionidae. In Junk, W., Coleopterorum catalogus. Berlin, vol. 29, pt. 146, pp. 3-32.

KUSCHEL, G.

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

LACORDAIRE, T.

1866. Histoire naturelle des insectes. Coléoptères. Paris, vol. 7, pp. 1-620.

MARCU, O.

1931. Die Stridulationsorgane der Gattungen *Aparapion* und *Rhinastus* unter den Curculioniden. Zool. Anz., vol. 95, pp. 331-333, figs. 1, 2.

ROELOFS, W.

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

SCHOENHERR, C. J.

1826. Curculionidum dispositio methodica. Leipzig, vol. 4, pp. 1-338.
1836. Genera et species curculionidum. Paris, vol. 3, pp. 1-858.

