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The Genera *Amerhinus* and *Lobaspis*  
(Coleoptera, Curculionidae, Cholinae)





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## Revision of the Neotropical Cholinae The Genera *Amerhinus* and *Lobaspis* (Coleoptera, Curculionidae, Cholinae)

PATRICIA VAURIE<sup>1</sup>

### ABSTRACT

In the revision of *Amerhinus* only three species are considered valid, the others being transferred to other genera. *Lobaspis* is removed from its synonymy with *Cholus* and is re-established as a valid genus of 12 species, of which six are new: *maculatus*, *dresdeni*, *orbignyi*, *unilinea*, *lentiginosus*, and *epemoebus*. Both genera are from South America. One species breeds in palms but no biology is recorded for other species. Photographs of the species and drawings of the genitalia of males are presented.

### INTRODUCTION

In a continuing study of the weevil subfamily Cholinae I have already revised six genera, *Rhinastus* (Vaurie, 1973a), *Homalinotus* and *Ozopherus* (1973b), *Odontoderes* (1974a), *Irenarchus* and *Cholomus* (1974b), comprising 46 species in all.

Many genera are still to be studied, especially those numerous ones in which the species have the first tarsal segment wider and larger than the second (Rhinastini). For the group with narrow first tarsal segment (Cholini) there remains, according to my tentative reckoning, only a monotypic wingless species known as *Adionychus grandicollis* Kirsch, and two large genera, *Cholus* Germar and *Aphioramphus* Guérin-Méneville, each with approximately 60 species. This concept of the genera involves many changes and

synonymies. I hope soon to be able to give a tentative key to the genera of the tribes Cholini and Cholomini.

In the present paper, *Amerhinus* Sahlberg (three species) and *Lobaspis* Chevrolat (12 species) are reviewed. These genera do not appear to be closely related, *Amerhinus* being closer to *Ameris* and *Lobaspis* to a section of *Cholus*.

The species of *Amerhinus* and *Lobaspis* are very colorful. Those of *Amerhinus* are generally large (9 to 24 mm.) and those of *Lobaspis* generally small (4.5 to 12 mm.). They occur widely in South America, but virtually nothing is recorded of their biology except for *A. ynca*, which breeds in palms.

Acknowledgments of loans of specimens, photographs, etc. are about the same as those in

<sup>1</sup> Research Associate, Department of Entomology, the American Museum of Natural History.

my other revisions (see above). I have examined about 650 specimens of *Amerhinus*, half of which are *A. ynca*, and 250 specimens of *Lobaspis*, half of which are *L. irroratus* and *squamosus*.

#### GENUS *AMERHINUS* SAHLBERG

*Amerhinus* Sahlberg, 1823, p. 44 (type, by monotypy, *Amerhinus ynca* Sahlberg).

**Diagnosis.** Oblong, cylindrical species with elongate, yellowish, hairlike scales, and scattered black tubercles; short, stout beak not longer than pronotum and generally closely adpressed to prosternum; pygidium often exposed slightly; differing from allied genera in having tiny scutellum enclosed by base of elytra or larger scutellum with apex elevated, elytra scarcely narrowing to apex, mesosternum and prosternum without projections, and first tarsal segment narrower than second.

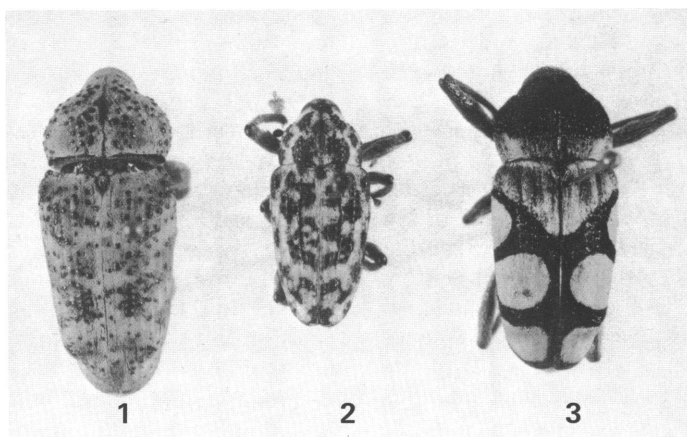
**Description.** Length 9 to 24 mm. Mandibles apparently smooth on inner edge, but trilobed laterally. Labium with postmentum about twice length of prementum, but males with it wider, shorter, and wider than prementum. Eyes widely separated by width of base of beak, strongly convex, more or less oval, but slightly acuminate at lower end, not or scarcely longer than width of base of beak (in lateral view). Antennal funicle with terminal segment 7 not or scarcely wider or

longer than segment 6, and separated from club; segment 1 longer than 2, 2 longer than remaining segments which are as wide as long.

Pronotum wider than long, with feeble postocular lobe and strong apical constriction. Scutellum either tipped forward or enclosed by rolled edge of base of elytra. Elytra cylindrical, oblong, sides subparallel to rounded-truncate apex. Prosternum in front of coxae shorter than diameter of coxa. Mesepimeron short, narrow, scarcely angulate behind. Mesosternum flat. Metasternum as long as at least diameter of coxa, usually longer.

Abdomen with segment 2 at middle shorter than 1 and as long as segments 3 and 4 combined. Femur clavate, with inner margin toothed near apex. Tibia with apex uncinat and mucronate; hind tibia with outer apical comb short, one-fourth or one-fifth length of tibia. Tarsus with segment 1 at apex narrower than segment 2; segment 2 nearly as wide as long; segment 3 bilobed to near base. Claws divergent. Genitalia of male with parameres and short manubrium; basal sclerite (copulating armature) present.

**Sexual Dimorphism.** In males the ventral apex of the beak, which is generally not visible because of the strong deflection of the beak, is somewhat tumid and the ventral surface is canaliculate laterally; the pronotum is wider and more convex than that of females, and the abdo-



FIGS. 1-3. *Amerhinus* (approximately  $\times 2$ ). 1. *A. ynca*, male, showing, at left, acuminate humerus. 2. *A. olivieri*. 3. *A. dufresnei*.





as pronotum; elytra with base of third interval tumid and advanced onto pronotum; scutellum as small as pronotal tubercle, enclosed by base of elytra. *olivieri* Boheman

*Amerhinus ynca* Sahlberg

Figures 1, 4-7

*Amerhinus ynca* Sahlberg, 1823, p. 44 (Brazil; type, male, in Naturhistoriska Riksmuseum, Stockholm, examined).

*Dionychus ruidus* Germar, 1824, p. 316 (Brazil; type probably in Halle; synonymized by Klima, 1936).

*Dionychus* var. *silaceus* Desbrochers des Loges, 1906, p. 371 (Brazil; type not found; synonymized by Kuschel, 1955).

**Diagnosis.** Agreeing with *olivieri* in mottled pattern composed of groups of sparse black tubercles among yellowish or white dense scales, but beak straight as in *dufresnei*, not arcuate; differing from both species in secondary sexual characters, and in tipped forward, but not enclosed scutellum.

**Range.** Brazil, Bolivia, Paraguay, Argentina, and Peru. (For 342 specimens examined, see Appendix.)

**Description.** Length 9 to 24 mm. Color pattern: dense yellow, brownish, or pure white elongate scales dotted with patches of large, sparse, black tubercles; underside with yellow or white scales.

Beak robust, shorter than pronotum, in some specimens carinate and slightly concave dorsally at base, of same width throughout both dorsally and laterally. Antenna of male inserted in apical third of beak, of female only slightly in front of middle. Pronotum convex, wider than elytra, with bare, abbreviated, shining median carina or diamond-shaped area, with round, convex, in some specimens flattish tubercles, sometimes dense, but generally sparsely scattered on either side of center and on sides below, leaving non-tuberculate areas at center and laterally. Scutellum densely scaled, generally elongate, its apex elevated. Elytra with same clusters of tubercles as those of pronotum, but more densely set, in some specimens tubercles merely scattered; intervals and striae not well discernible.

Prosternum basally slightly tumid. Front and middle coxae separated by slightly less than

width of beak. Tibia strongly compressed, outer edge almost knifelike, in some specimens tibia somewhat sinuate within. Aedeagus with long coil leading to basal sclerite (figs. 4, 5); apex acuminate, in some with slight knob; apodemes long, very wide.

**Remarks.** In the male the abdomen and metasternum are depressed, but in the female convex or flat; the humerus of the male (fig. 1) is drawn slightly forward, not rounded off as in the female; the male lacks the small round or triangular hole present at the apex of the abdomen of the female.

Although there are many small variations in the mottled dorsal pattern, it is in general quite constant. The tubercles of the pronotum, for instance, may be more elongate or denser in some individuals; they may be convex or flat, and some flat ones are umbilicate, but the cluster pattern of the tubercles and the median carina or diamond are invariably present.

The aedeagus is much like that of *dufresnei*, not at all like that of *olivieri* (figs. 6, 8, 10).

**Biology.** Lepesme (1947) and Araujo e Silva (1968) reported *ynca* in the "rachis" or inflorescences of *Cocos*, particularly *C. coronata*, *picrophylla*, and *Diplothemium candescens*. The larvae live in the petioles of the leaves of various palms (coqueiro anão, coqueiro da Bahia, dendezeiro, licurizeiro, macaubeira, and ornamental palms). Bondar (personal commun.) noted larvae in Bahia in the leaf petioles of *Cocos nucifera* and *coronata*; he collected a specimen in Santa Iñez, Bahia, in the flowers of "calumbi" or cat's claw (unha de gato). No mention was made by the authors quoted whether *ynca* was a serious pest.

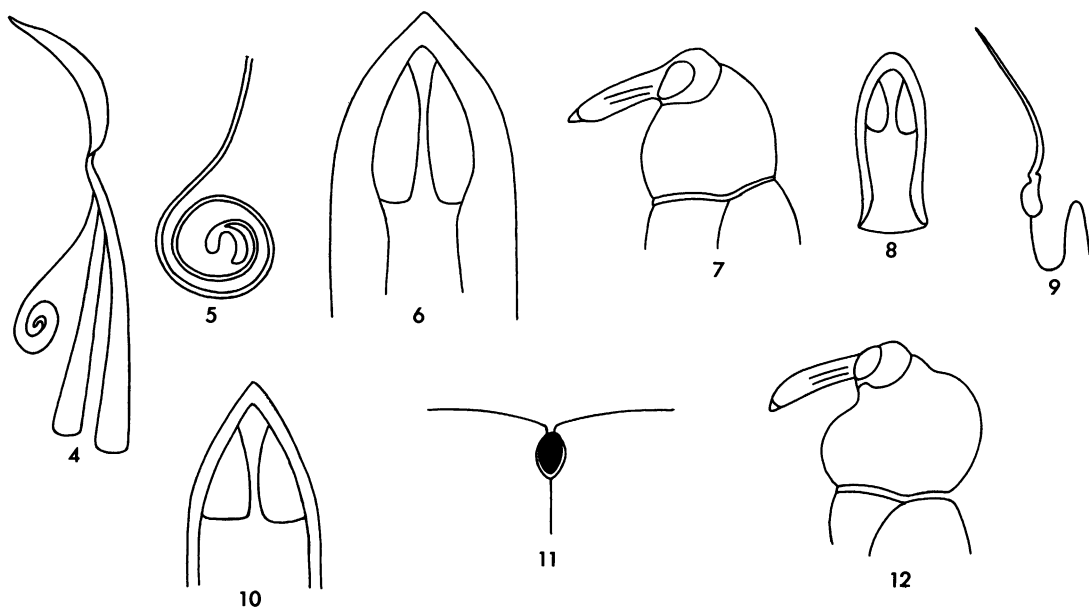
*Amerhinus olivieri* Boheman

Figures 2, 8, 9

*Amerhinus olivieri* Boheman, 1836, p. 600 (Brazil; type, male, in Naturhistoriska Riksmuseum, Stockholm, examined).

*Amerhinus sarcinatus* Germar, 1836, p. 602 (Brazil; type probably in Halle; synonymized by Chevrolat, 1878).

**Diagnosis.** In pattern resembling *ynca*, but differing from it and from *dufresnei* in having distinctly arcuate, not straight beak, bituberculate base of prosternum, and base of elytra each side



FIGS. 4-7. *Amerhinus ynca*. 4. Aedeagus showing long, wide apodemes and coil. 5. Coil and basal sclerite, enlarged; characteristic also of *A. dufresnei*. 6. Aedeagus, apex. 7. Lateral view of head and pronotum.

FIGS. 8, 9. *Amerhinus olivieri*. 8. Aedeagus (apodemes not shown). 9. Basal sclerite, enlarged.

FIGS. 10-12. *Amerhinus dufresnei*. 10. Aedeagus, apex. 11. Retracted scutellum. 12. Lateral view of head and pronotum.

of scutellum tumid and advanced onto pronotum.

**Range.** French Guiana, Brazil, Paraguay, Argentina, and Peru. (For 123 specimens examined, see Appendix.)

**Description.** Length 9 to 15 mm. Color pattern: dense yellow elongate scales dotted with patches of fairly dense black tubercles; underside with yellow scales.

Beak robust, arcuate, of same length as pronotum, unicarinate dorsally. Antenna inserted slightly in front of middle of beak. Pronotum convex, at middle as wide as elytra, with bare, opaque, diamond-shaped black center surrounded, in addition to scales, by four patches or clusters of round, convex tubercles, and laterally with two smaller clusters. Scutellum bare, roundish, not larger, in some specimens even smaller than pronotal tubercle, and almost entirely enclosed by sides of elytral suture. Elytra with third interval at extreme base bare, strongly tumid and advanced beyond base of elytra onto

pronotum; from behind base to near apex sharply carinate, vaguely tuberculate, and bare; fifth interval carinate from near base to beyond middle; striae partly bare, with large foveae; suture and scattered areas of elytra with elongate scales.

Prosternum generally not visible because of deflected beak, but concave medially, and has two large, flat, pointed tubercles basally. Front and middle coxae widely separated by width of beak. Tibia compressed. Aedeagus with awl-shaped basal sclerite (fig. 9); apex rounded; apodemes shorter than in other species.

**Remarks.** *Amerhinus olivieri* lacks the long coil present in the inner sac of the aedeagus of *A. ynca* and *dufresnei*. Instead its basal sclerite is a tube with an elongate base, exactly similar to the sclerites of some species of *Homalinotus*. The apex of the aedeagus is rounded, whereas it is acuminate in the other two species.

Germa, in his description of *sarcinatus* (synonymized with *olivieri* by Chevrolat) men-

tioned the raised basal intervals of the elytra characteristic of the species.

*Amerhinus dufresnei* (Kirby)

Figures 3, 10-12

*Rhynchaenus Dufresnei* Kirby, 1818, p. 433, pl. 22, fig. 10 (Brazil; type probably in British Museum).

*Rhynchaenus pardalis* Dalman, 1823, p. 85 (Brazil; type probably in Naturhistoriska Riksmuseum, Stockholm; synonymized by Klima, 1936).

**Diagnosis.** Differing from all Cholinae in bold elytral pattern of six large orange spots and large basal yellowish white V-shaped area; differing further from *olivieri* and *ynca* in globose pronotum (fig. 12) with dense tubercles and somewhat narrower front intercoxal space.

**Range.** Eastern Brazil. (For 181 specimens examined, see Appendix.)

**Description.** Length 11 to 19 mm. Color pattern: pronotum black with coarse black-brown scales except across base where scales yellowish; elytra with black coarse scales except in basal V-shaped area where scales yellow and in spotted areas where scales orange (spots two apically, two postmedian, two subbasally).

Beak and antenna as described for *ynca* but beak proportionally even shorter and in some slightly arcuate near apex. Pronotum globose dorsally and laterally, wider than elytra, with sharp median carina and dense tubercles among scales. Scutellum small, sparsely, if at all scaly, in some specimens scarcely larger than pronotal tubercle, almost entirely enclosed by sides of elytral suture, in some specimens elevated at apex. Elytra with four intervals at base elevated, forming tumid scaly cylinders; striae, when bare of scales, showing large, dense foveae and intervals a row of tubercles.

Prosternum slightly concave medially and slightly tumid in front of coxae; basally slightly tumid. Front and middle coxae separated by about half width of beak. Tibia compressed. Aedeagus with long coil leading to basal sclerite (fig. 5); apex acuminate; apodemes long.

**Remarks.** The elytral pattern of *dufresnei* is quite constant, varying only in the size of the scaly spots that are so large in some individuals that they almost touch each other. In many

specimens the yellow scales of the large basal patch of the elytra are partly worn off, leaving a rather dirty brownish surface.

Although the abdomen of the male is somewhat depressed and that of the female flat or slightly convex, the difference is not in all cases very marked.

GENUS *LOBASPIS* CHEVROLAT

*Lobaspis* Chevrolat, 1881, p. 467 (no type designation; type here designated as *Cholus squamosus* Boheman).

**Diagnosis.** Species of small size (4.5 to 12 mm.) adorned with scales arranged, in some species, in spots or bands. Differing from other genera in combination of characters as follows: surface without tubercles; elytra with base broadly lobed, overlapping base of pronotum and generally covering scutellum which, if visible, is minute and narrow; pronotum, viewed laterally, with acutely projecting basal angle extending beyond mesepimeron touching metepisternum (fig. 13); mesepimeron not angulate, its distal margin abutting on pronotum instead of on elytra; metepisternum very wide and short; epipleural margin of elytra more or less straight or oblique, not or scarcely emarginate or sinuate.

**Description.** Length 4.5 to 12 mm. Mandibles apparently smooth on inner edge. Eye larger than width of base of beak (in lateral view). Antennal funicle with segment 7 separated from club; segment 1 at least twice length of segment 2; segments 3 to 7 shorter.

Pronotum convex, wider than long, as wide as elytra; base covered by elytral lobes; basal angle (in lateral view) acuminate, covering part of mesepimeron and almost reaching front border of metepisternum; postocular lobe feeble. Scutellum not visible at 40X magnification or present as minute, elongate granule retracted behind elytral border and enclosed by it. Elytra punctate striate; base broadly bilobed, overlapping base of pronotum and covering scutellum; apexes smooth, conjointly rounded; margin of epipleura at abdominal segments 1 and 2 straight. Prosternum with base virtually straight, flat. Mesepimeron short, narrow, not angulate medially, contiguous with basal angle of pronotum. Mesosternum flat or feebly tumid. Metasternum about as long as diameter of coxa; sides convex, not cari-



nate or undercut. Metepisternum very wide, in some specimens wider than length of abdominal segment 1 (in lateral view). Ventral surface with dense scales.

Abdomen with segment 2 at middle shorter than 1 and about as long as segments 3 and 4 combined. Femur clavate, with inner margin toothed near apex. Tibia with apex uncinat and mucronate, but uncus small or obsolete or well hidden by hairs in several species; hind tibia with outer apical comb short; some individuals with inner edge of tibia slightly depressed where femoral tooth reposes. Tarsus with segment 1 at apex narrower than segment 2; segment 2 as wide as or wider than long; segment 3 bilobed to near base. Claws divergent. Genitalia of male (fig. 43) with parameres tiny or obsolete; basal sclerite not found; basal apodemes very short, but longer than aedeagus in several species.

**Sexual Dimorphism.** Externally the sexes are difficult to differentiate. In some species the beak of the male, viewed dorsally, is the same width throughout, whereas that of the female is wider apically. The abdomen of the male is generally slightly depressed, that of the female flat or convex.

**Distribution and Biology.** The species occur in South America. The most widespread species are *squamosus* and *irroratus*, the latter ranging widely in French Guiana as well as in Surinam and northern Brazil, and *squamosus* in French Guiana, Brazil, Bolivia, Paraguay, and northern Argentina. Three species (*unilinea*, *orbignyi*, and *epemoebus*) have been found in Bolivia only, and three (*besckei*, *dresdeni*, and *maculatus*) in Brazil only; *frater* occurs in Brazil and Paraguay; *lenticinosus* in Peru; *aemulus* in Bolivia, Brazil, Ecuador, and Peru; and *pulchellus* in French Guiana. The geographic range is probably more extensive than I have indicated, as I have seen relatively few specimens of the majority of the species. No species are recorded from Colombia, Venezuela, Uruguay, or Chile.

I find no reference in the literature to any habits or biology; the only notation is from a specimen that reads "in flowers of *Acacia*."

**Remarks.** These tiny, colorful weevils are very homogeneous and, as can be seen in the key to the species, differ from each other chiefly in the scaling of the dorsal surface. Although the pattern of spots or bands is quite constant within a

species, the rubbing off or wearing away of the scales may change the appearance and make identification difficult.

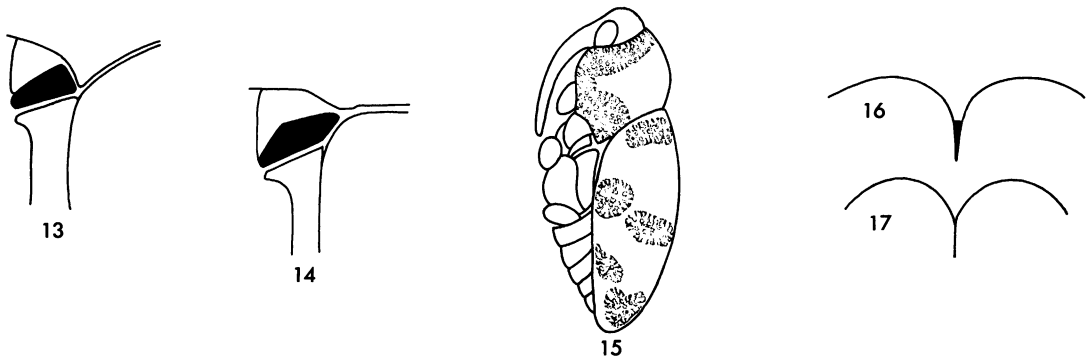
Included in the genus are six described species and six new species. I have examined the types with the exception of those of *irroratus* Guérin-Méneville and *pulchellus* Pascoe. The number of specimens examined is only 250, of which about half are of *irroratus* and of *squamosus* Boheman. Additional specimens were seen but not recorded in the collections of the British Museum and the Naturhistoriska Riksmuseum. The species appear in the catalogues of Klima (1936) and Blackwelder (1947) under the genus *Cholus*.

Of the characters given in the diagnosis, the most unusual and significant is the apparent advancement of the mesepimeron so that it becomes aligned with the acute basal angles of the pronotum (fig. 13) rather than with the basal sides of the elytra as in other genera (fig. 14), with the result that the pronotal angles virtually touch the front of the metepisternum. In *irroratus*, however, the mesepimeron of some individuals is partly touching the pronotum and partly the elytra.

Chevrolat (1881) gave the Greek name for shield (scutellum) to his new genus *Lobaspis* of which the principal character was the covering of the scutellum by the "lobe prothoracique qui s'avance." However, in appearance at least, the scutellum is covered by the large basal lobes of the elytra that come together over it, not by the prothorax. Chevrolat included three small Brazilian species, which he transferred to *Lobaspis* from *Cholus* (*squamosus* Boheman, and *besckei* and *sulphuratus* both of Fahraeus.). One of these (*sulphuratus*), as well as two new species (*argentulus* and *molitor*), which he described, has the scutellum uncovered and rather round, and the base of the elytra straight, not lobed, and thus do not agree with my conception of *Lobaspis*.

In 1882, after describing additional species of *Cholus*, Chevrolat said he would shortly give a résumé of the tribe, indicating the species he had already published and those he considered part of the tribe. As far as I know, however, he did not publish further on the Cholinae.

Heller (1906) in his key to the genera of the Cholinae synonymized, without explanation, not only *Lobaspis* with *Cholus*, but Chevrolat's other genera as well (*Gymnonotus*, *Platypachys*, *Lon-*



FIGS. 13, 14. Diagram showing position of mesepimeron (in black) in relation to acuminate basal angle of pronotum. 13. *Lobaspis*. 14. *Amerhinus*.

FIG. 15. Lateral view of *Lobaspis maculatus*, new species.

FIGS. 16, 17. Diagram of base of elytra. 16. Scutellum visible. 17. Scutellum not visible.

*chocerus*, and *Polyderces*). Desbrochers des Loges (1906) described *frater* and *aemulus* (a synonym of *aemulus* Pascoe) as if they belonged in a subgenus (*Lobaspis*) of *Cholus*. Kuschel (personal commun.) considered *Lobaspis* a valid genus comprising *aemulus*, *besckei*, *frater*, *irroratus*, *pulchellus*, *squamosus*, *sulphuratus*, and several undescribed species. He excluded *argentulus* and did not mention *molitor*. I agree with his reinstatement of *Lobaspis* but would exclude *sulphuratus*, *argentulus*, and *molitor* as not agreeing with the generic characters.

**Other genera.** The species most closely resembling *Lobaspis* are probably those of the *albicinctus* group of *Cholus* in which the majority of species, as in *Lobaspis*, have white or yellow or black spots, stripes, or bands, rather wide metepisternum, and short mesepimeron; some are also small. The *albicinctus* group differs, however, not only in the absence of the total of the generic characters of *Lobaspis*, but also in having the second and third segments of the abdomen laterally angulate, the apexes of the elytra dentate or feebly serrulate, and the aedeagus extremely sinuous.

In some other genera the scutellum can be very small and elongate, or not visible, but most of these genera are in the group (formerly called the tribe Rhinastini) that have the first tarsal segment larger or wider than the second, as *Cryptaspis*, *Perideraeus*, *Peliobia*, some *Sclerosomus*, and *Acrotomopus*. There are, nonetheless, a few

species with narrow first tarsal segment in which the scutellum is small and elongate, but these species (*bohemani* Mannerheim, *rubiginosus* Kuschel, *kunzei* Boheman, *Amerhinus olivieri* Boheman, and *Amerhinus dufresnei* Kirby) differ from *Lobaspis* in the alignment of the mesepimeron, the narrow metepisternum, the straight, not bilobed base of the elytra, and the nonacuminate basal angles of the pronotum.

Four species with narrow tarsal segment (*aureus*, *cretaceus*, *tenuis* Champion, and *tener* Kirsch) are almost as small as most *Lobaspis*, and they agree further in having the pronotal basal angles fairly prominent, and in *cretaceus* the base of the elytra feebly bilobed. They are, however, narrow species with elongate, rather oblong elytra (about twice the length of the pronotum), or a narrow metepisternum, longer metasternum; also a round or transverse, not elongate scutellum, and the mesepimeron not aligned with the pronotum.

Some of the characters given for *Lobaspis*, because they are present in other genera, may not seem sufficient for generic delimitation, but taken together they seem conclusive.

**Grouping of the Species.** In the checklist below, the species are arranged according to the kind of elytral pattern, the amount of scaling, and the general shape. In the first five species the elytra are furnished with white or yellowish scaly spots that are distinct and well defined, not blurred, and the species are vaguely diamond-

shaped, that is, wide in the middle at the base of the elytra and tapering to both ends. The sixth species (*besckei*) is similarly spotted, but in shape is rather oblong, not tapering. *Lobaspis frater* and *orbignyi* are also not strongly tapered, and instead of pale scaly spots on the elytra, have pale scaly bands that more or less surround or enclose large denuded spots. Fresh examples of *squamosus*, *unilinea*, *lentiginosus*, and *epemoebus* are covered with scales; in the last two species dense scales in spots or bands contrast on the elytra with sparsely scaled intervening areas.

The scutellum is not visible (fig. 17) in the specimens I have seen of *aemulus* (except for one specimen), *besckei*, *frater*, *pulchellus*, and *squamosus*. It is visible as a minute, elongate granule (fig. 16) squeezed between the broad basal lobes of the elytra in *irroratus* and in the six new species; in *irroratus* it is visible at low magnification and in the others generally only at high magnification.

#### CHECKLIST OF SPECIES OF *LOBASPIS* WITH SYNONYMY

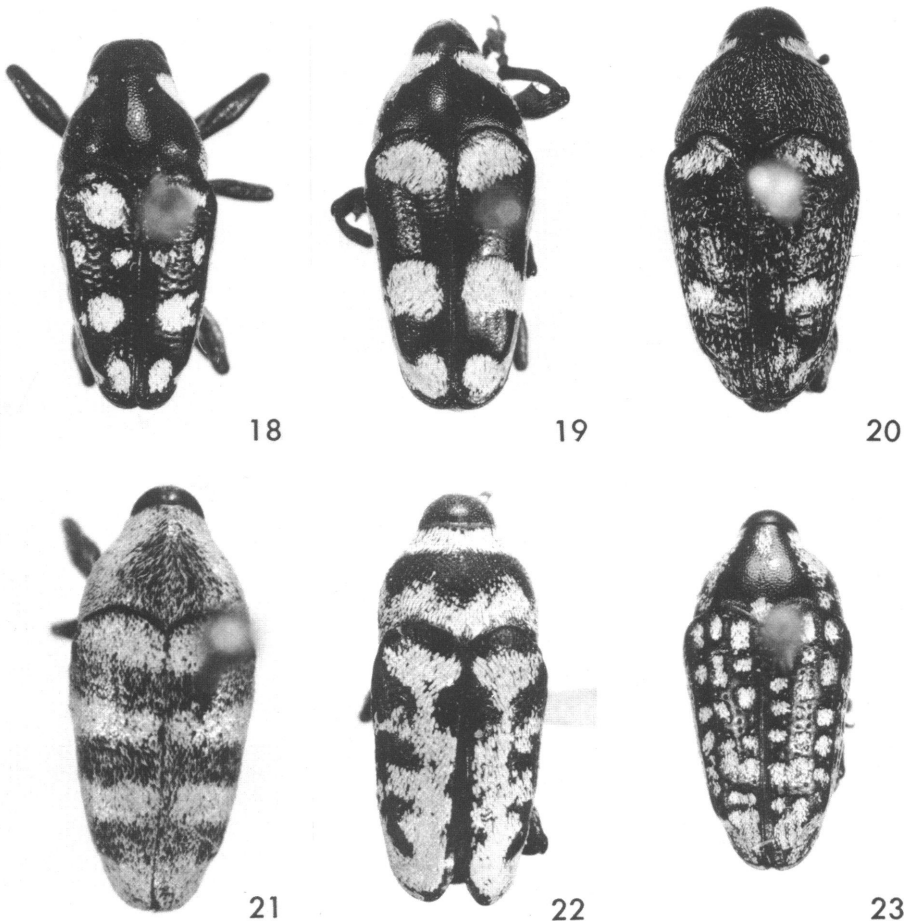
1. *aemulus* Pascoe  
    *aemulus* Desbrochers des Loges  
    *desbrochersi* Klima
2. *pulchellus* Pascoe
3. *maculatus*, new species
4. *dresdeni*, new species
5. *irroratus* Guérin-Ménéville
6. *besckei* Fahraeus
7. *frater* Desbrochers des Loges
8. *orbignyi*, new species
9. *squamosus* Boheman  
    *lepidotus* Boheman, new synonymy
10. *unilinea*, new species
11. *lentiginosus*, new species
12. *epemoebus*, new species

#### KEY TO THE SPECIES OF *LOBASPIS*

1. Elytra with six distinct rows of six or more impressed, white, scaly spots; scutellum visible . . . *irroratus* (Guérin-Ménéville)  
    Elytra with spots, if present, not in rows, not so numerous; scutellum visible or not . . . . . 2
2. Pronotum medially with elongate, hairlike scales much narrower than scales in basal elytral spots . . . . . 3  
    Pronotum medially with scales almost as

- wide as those of elytra, or scaleless . . . 4
3. Elytra, seen with naked eye, has alternating yellow and grayish crossbands (yellow and reddish under microscope) . . . . .  
    . . . . . *epemoebus*, new species  
    Elytra, seen with naked eye, has two basal and two postmedian white scaly spots and scattered scales between . . . . .  
    . . . . . *dresdeni*, new species
  4. Elytra, seen with naked eye, has densely scaly indistinct yellow spots and vague bands more or less merging with (not distinct from) sparsely scaly intervening areas; epipleura virtually entirely scaly . . . . . *lentiginosus*, new species  
    Elytra and epipleura not both as stated above . . . . . 5
  5. Elytra either with bare black spots surrounded by yellow scales, or entirely scaly except where worn . . . . . 6  
    Elytra with distinct, separate, densely scaly spots . . . . . 9
  6. Elytra with bare black spots surrounded by scales . . . . . 7  
    Elytra uniformly densely scaly, without pattern; scales where worn, are worn irregularly . . . . . 8
  7. Elytra with suture not entirely scaly; epipleura, unless worn, scaly, at least at base; femur with scales almost as broad as those of venter . . . . .  
    . . . . . *frater* (Desbrochers des Loges)  
    Elytra with suture entirely scaly; epipleura with base bare of scales; femur with elongate hairlike scales . . . . .  
    . . . . . *orbignyi*, new species
  8. Scutellum not visible; femur with scales almost as broad as those of elytra; pronotum generally with bare space medially . . . . . *squamosus* (Boheman)  
    Scutellum visible as tiny elongate granule; femur with fine hairlike scales; pronotum with line of scales medially . . . . .  
    . . . . . *unilinea*, new species
  - 9(5). Front coxae virtually touching (separated by width of antennal segment); body rather oblong-oval; each elytron with apical scaly mark semilunar; elytra more than twice length of pronotum . . . . .  
    . . . . . *besckei* (Fahraeus)  
    Front coxae separated by width of antennal club or slightly more; body rather diamond-shape; each elytron with apical scaly mark either semilunar or divided into two spots; elytra not more than





FIGS. 18-23. *Lobaspis* (from 5 to 10 mm.). 18. *L. aemulus*. 19. *L. besckei*. 20. *L. dresdeni*. 21. *L. epemoebus*. 22. *L. frater*. 23. *L. irroratus*.

- one and one-half times length of pronotum . . . . . 10
10. Each elytron (excluding apical lunule) with two or more tiny dorsal spots in addition to two larger dorsal spots; dorsal spots almost round . . . *aemulus* (Pascoe)  
Each elytron without additional smaller spots; dorsal spots round or transverse . . . . . 11
11. Elytra with dorsal spots wider than long or forming interrupted band; epipleura (excluding apical marks) with two spots (one in front of and one behind middle)

. . . . . *maculatus*, new species  
Elytra with dorsal spots round; epipleura (excluding apical marks) with one spot at about middle . . . *pulchellus* (Pascoe)

*Lobaspis aemulus* (Pascoe)  
Figures 18, 29-31

*Cholus aemulus* Pascoe, "1873" [1872], p. 465 (type, Amazons [Brazil], in British Museum, examined).

*Cholus* (*Lobaspis*?) *aemulus* Desbrochers des Loges, 1906, p. 364 ("Amazones"; type in

Muséum National d'Histoire Naturelle, Paris, examined; synonymized by Kuschel, 1955). *Cholus desbrochersi*, Klima, 1936, p. 7 (new name for *aemulus* Desbrochers des Loges).

**Diagnosis.** Tiny, scaly spotted, diamond-shaped species resembling *pulchellus* and *maculatus*, but differing in having some smaller dorsal spots on elytra as well as large round spots.

**Range.** Brazil, Bolivia, Peru, and Ecuador. (For 26 specimens examined, see Appendix.)

**Description.** Length 4.5 to 9 mm. Color patterns: black with pale elongate scales on pronotum each side of apex and on sides and basal angles, and in distinct dorsal spots on elytra (two round spots basally, two postmedially, two to four smaller spots antemedially, and two apical semilunar marks that may be broken into two); also two spots on epipleura in addition to apical mark.

Eyes round, convex, close together above where separated by width of beak at base, or even less. Beak feebly arcuate, slightly longer than pronotum, dorsally about same width throughout. Antenna inserted distinctly behind middle of beak; antennal groove with upper edge carinate. Pronotum with disc finely, densely punctate. Scutellum not visible.

Front intercoxal space as wide as beak at middle; middle space wider, as wide as diameter of coxa. Tibia with apical teeth (uncus and mucro) virtually obsolete; front tibia feebly arcuate; hind tibia with outer apical comb short (one-fourth or one-fifth length of tibia); hind tibia not reaching apex of elytra. Aedeagus with apex acuminate, in some cut out on the sides; apodemes shorter than aedeagus; in profile arcuate or nearly straight.

**Remarks.** In the majority of specimens examined, there are only two additional smaller spots on each elytron, but in three (Peru; Rio Marañon, Peru; El Napo, Ecuador) there are three to four additional spots and these are not in all cases the same number on each elytron. The Rio Marañon specimen (a dissected female) is very large, almost twice the length of the smallest specimens. A specimen from Chapare, Bolivia, has only one additional spot and has scattered scales in intervening areas of the elytra. The aedeagus of these specimens from Chapare

and El Napo are rather asymmetrical at the apex, not forming a symmetrical point as in a male from Amazonas, Brazil (figs. 29-31).

In the male of El Napo mentioned above, the inner apical tooth of the hind tibia is distinct and prominent, not rounded off and virtually obsolete as in other specimens, and the post-medial scaly spots of the elytra are widened to extend to the epipleura.

### *Lobaspis pulchellus* (Pascoe)

Figure 27

*Cholus pulchellus* Pascoe, "1873" [1872], p. 464 (Cayenne; type in British Museum, examined).

**Diagnosis.** Tiny, scaly spotted, diamond-shaped species near *aemulus* and *maculatus*, but differing from them in having only one median scaly spot on epipleura of elytra; lacks additional small spots present on elytra of *aemulus*.

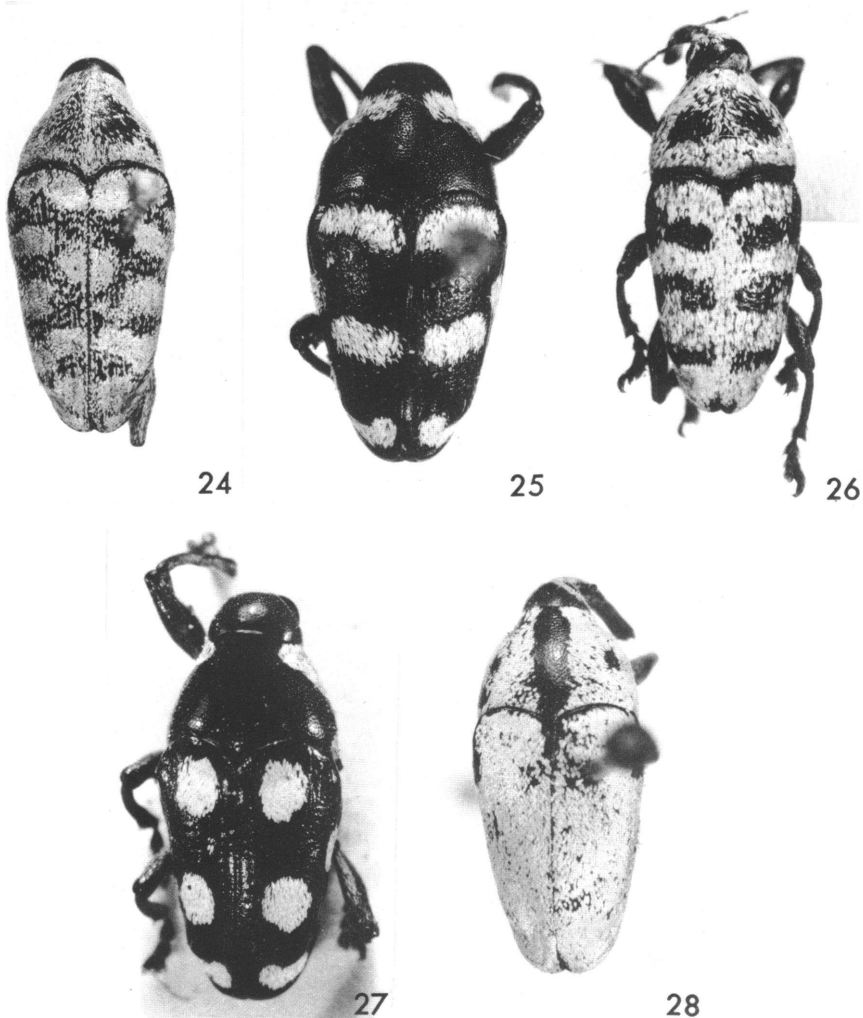
**Range.** Known only from French Guiana. (For three specimens examined, see Appendix.)

**Description.** Length 6 mm. Color pattern: black with pale, elongate scales on pronotum either side of apex and on sides and basal angles, and in distinct dorsal spots on elytra (two roundish spots basally, two postmedially, and two semilunar at apex); epipleura of elytra with one spot at middle in addition to apical lunule.

Eyes strongly convex, feebly acuminate at lower end, above separated by less than width of beak at base. Beak arcuate, slightly longer than pronotum, dorsally slightly wider apically. Antenna inserted behind middle of beak; antennal groove with upper edge carinate. Pronotum and scutellum as described for *aemulus*.

Front and middle intercoxal spaces not visible. Tibia with apical teeth not evident; front tibia feebly arcuate; hind tibia with outer apical comb short (one-fourth length of tibia); hind femur not reaching apex of elytra. Aedeagus not examined.

**Remarks.** There is very little difference between *pulchellus* and *aemulus* and possibly additional specimens from French Guiana will show some variation in the number of dorsal or epipleural white spots.



FIGS. 24-28. *Lobaspis* (from 5 to 10 mm.). 24. *L. lentiginosus*. 25. *L. maculatus*. 26. *L. orbignyi*. 27. *L. pulchellus*. 28. *L. squamosus*.

Many specimens in the Pascoe collection in the British Museum bear a pink, oval label with the locality, and underneath this label is a small white label with the name of the species and the notation "type" all in Pascoe's writing.

***Lobaspis maculatus*, new species**

Figures 15, 25, 41

*Type Material.* Type, male, and three para-

types, Caraça, Minas Gerais, Brazil, 1884, Germain, collector, in Kuschel collection, Department of Scientific and Industrial Research, Auckland; one paratype, same data, in Muséum National d'Histoire Naturelle, Paris; one male paratype Rio de Janeiro, and one Ribeirão Pires, São Paulo, in Kuschel collection; six paratypes, Tijuca, Rio de Janeiro, 1884, Gounelle, collector, and one paratype without locality in Paris Museum; one female paratype, Santa



Catarina, Maller, collector, and four female paratypes, Corupa (Hansa Humbolt), Santa Catarina, November, 1944, December, 1945, Maller, collector, in the American Museum of Natural History; three, "Brazil," in British Museum.

**Diagnosis.** Scaly spotted, diamond-shaped species near *aemulus* and *pulchellus*, but differing from them in having pale scaly spots of elytra wider than long, not round, and those at base of elytra appearing as broad band interrupted at suture. Differing further from *aemulus* in lacking additional small dorsal spots on elytra, and from *pulchellus* in having two median spots on epipleura instead of one median spot.

**Range.** Eastern Brazil from Minas Gerais and Rio de Janeiro south to Santa Catarina.

**Description.** Type, male, 7.5 mm. Color pattern: black with pale elongate scales on pronotum each side of apex and on sides and basal angles; elytra with scales in basal band broken at suture and in large dorsal spots (two transverse spots postmedially and two apically in form of semilunules); on epipleura two round spots in addition to apical ones.

Eyes rather flat, feebly acuminate at lower end, separated above by about width of beak at base. Beak arcuate, slightly longer than pronotum, dorsally of same width throughout. Antenna inserted slightly behind middle of beak; antennal groove with upper edge carinate. Pronotum with disc finely, densely punctate. Scutellum visible as tiny elongate granule.

Front intercoxal space almost as wide as beak at middle; middle space wider than front. Tibia with uncus virtually obsolete; front tibia arcuate; hind tibia with outer apical comb about one-fifth length of tibia; hind femur not reaching apex of elytra. Aedeagus with apex rounded, spatulate; apodemes slightly shorter than aedeagus; aedeagus in profile strongly arcuate.

**Variation from Type.** The four females that were dissected differ from the type and another dissected male in having the beak slightly wider apically and less densely punctate. The paratypes range in length from 7 to 9 mm.

**Etymology.** From the Latin, *maculatus*, spotted.

**Remarks.** In addition to the differences given in the diagnosis, *maculatus* differs from *aemulus* in having the scutellum visible and the aedeagus

at apex broadly rounded, not acuminate. It is also rather stockier, more robust than that species. The spotted pattern is quite uniform and constant.

In the two males dissected the punctures in the basal half of the beak are run together longitudinally and the first abdominal segment is shallowly concave. In both sexes the last abdominal segment is transversely slightly depressed and furnished with tufts of hairs on either side.

One of the paratypes from Santa Catarina was collected in the flowers of *Acacia*.

### **Lobaspis dresdeni**, new species

Figure 20

**Type.** "Brazil," in Museum für Tierkunde, Dresden.

**Diagnosis.** Robust and diamond-shaped, scaly species as in *maculatus*, but with lobes of elytra more angulate and advanced, pronotum covered in great part with very fine elongate setae, and elytra with scattered intervening scales in addition to dense scaly spots.

**Range.** Known only from the type.

**Description.** Type, probably female, 10 mm. Color pattern: pronotum black with fine, elongate white setae from each puncture except at sides of apex where scales as wide and dense as those of elytral spots; elytra with two transverse spots basally, two roundish spots subapically, and two faint marks apically; scattered scales on epipleura, intervals, and striae.

Eyes flat, feebly acuminate at lower end, above separated by about width of beak at base. Beak arcuate, slightly longer than pronotum, dorsally about same width throughout. Antenna inserted at middle of beak; antennal groove carinate and with forked depression. Pronotum with disc densely punctate. Scutellum visible as elongate granule.

Intercoxal spaces, tibia, and femur as described for *maculatus*, but tibial comb one-fourth length of tibia, and tibial teeth visible.

**Etymology.** The species is named for Dresden whose museum contains such a wealth of interesting coleopterous material.

**Remarks.** This species is larger and wider than *aemulus*, more like *maculatus*, differing from

them in the vestiture as stated above. The median spot on the epipleura is not distinct as the epipleura is filled with scattered scales as well. The metepisternum by direct comparison with that of other species (except *irroratus*) is proportionally narrower.

*Lobaspis irroratus* (Guérin-Ménéville)  
Figures 23, 33

*Cholus irroratus* Guérin Ménéville, 1844, p. 157 (Cayenne; type not found).

**Diagnosis.** Many spotted, diamond-shaped species distinguished from other species in having pale scaly spots in six dorsal rows on elytra (six to 10 spots on each row).

**Range.** Trinidad, French Guiana, Surinam, and Amazonian Brazil. (For 41 specimens examined, see Appendix.)

**Description.** Length 7 to 11 mm. Color pattern: red or black with pale scales in lateral third of pronotum and on median line, and on elytra in distinct elongate or round spots of various sizes situated on alternate intervals between striae, those at base larger, some spots on sides confluent; epipleura with row or rows of continuous scales.

Eyes flat, acuminate at lower end, separated above by width of beak at base. Beak arcuate, longer than pronotum, dorsally of same width throughout. Antenna inserted at or slightly in front of middle of beak; antennal groove with upper edge carinate and with forked depression. Pronotum with disc strongly, densely punctate. Scutellum visible as small elongate granule.

Front intercoxal space at least as wide as beak at middle; middle space slightly wider than front. Tibia with apical teeth visible; front tibia feebly arcuate; hind tibia with outer apical comb one-sixth length of tibia; hind femur not reaching apex of elytra. Aedeagus with apex truncate; apodemes slightly longer than aedeagus; in profile scarcely arcuate.

**Remarks.** The metepisternum, although not amenable to exact measurement, appears somewhat less short and wider than that of other species and the mesepimeron is not in all specimens so closely aligned with the pronotum. It is the only species of the genus with so many and such regular spots on the elytra; the six basal spots are

generally elongate. The scutellum is visible at lower magnification than it is in the other species with visible scutellum.

*Lobaspis besckei* (Fahraeus)  
Figures 19, 34, 42

*Cholus besckei* Fahraeus, 1844, p. 13 (Brazil; type in Naturhistoriska Riksmuseum, Stockholm, examined.)

**Diagnosis.** Scaly spotted species resembling *aemulus*, *pulchellus*, and *maculatus* in having distinct pale spots, but differing from them in longer, more oblong, not diamond-shaped elytra, and in having contiguous, not separated, front coxae.

**Range.** Eastern Brazil from Goyaz to Santa Catarina. (For 26 specimens examined, see Appendix.)

**Description.** Length 6 to 8 mm. Color pattern: black or red with pale elongate scales on pronotum across apex and on sides and basal angles; on elytra in six distinct dorsal large spots (two, wider than long, basally, two semilunar postmedially, which extend to epipleura, two semilunar apically) and two smaller dorsal spots antemedially; on epipleura (excluding postmedial and apical spots) one spot in front of middle.

Eyes round, convex, close together above where separated by slightly less than width of beak at base. Beak strongly arcuate, longer than pronotum, dorsally same width throughout or slightly wider at apex. Antenna inserted at or slightly behind middle of beak; antennal groove carinate on upper edge. Pronotum with disc shallowly, densely punctate. Scutellum not visible.

Front coxae subcontiguous; middle intercoxal space about as wide as apex of beak. Tibia with apical teeth visible; hind tibia with apical comb one-fifth or less length of tibia; hind femur not reaching apex of elytra. Aedeagus with apex rounded to triangular point, apodemes shorter than aedeagus; in profile not arcuate.

**Remarks.** This is apparently the only species with the postmedial marks of the elytra semilunar in shape as well as the apical marks, and these lunules face in opposite directions. The additional small spots behind the basal large spots recall those of *aemulus*, but the body shape

of *besckei* is oblong as in *frater*, not diamond-shaped as in *aemulus*. The base of the beak, viewed laterally, is very convex in some specimens. The scales on the legs and elytra are elongate and acuminate, not broad and rather truncate as in *frater*.

*Lobaspis frater* (Desbrochers des Loges)  
Figures 22, 35

*Cholus* (*Lobaspis*?) *frater* Desbrochers des Loges, 1906, p. 363 (Brazil; type in Muséum National d'Histoire Naturelle, Paris, examined).

**Diagnosis.** Resembling *besckei* in rather oblong shape, but differing in more widely separated front coxae, more coarsely punctate pronotum, and in having pale scales of elytra surrounding six or eight denuded spots. Elytra most similar to those of *orbignyi*.

**Range.** Goyaz and Matto Grosso in Brazil, and Paraguay. (For 18 specimens examined, see Appendix.)

**Description.** Length 6 to 7.5 mm. Color pattern: black or red with pale elongate scales across base and apex of pronotum and on sides; elytra covered with scales except at base and on seven or eight ill-defined areas: one or two bare spots on suture, and six rather angulate or transverse denuded spots in humeral area, at middle, and at apex.

Eyes round, flat, above close together, separated by less than width of beak at base. Beak strongly arcuate, longer than pronotum, dorsally widened at apex. Antenna inserted behind or at middle of beak; antennal groove in some specimens carinate on upper edge. Pronotum with disc densely, generally deeply punctate. Scutellum not visible.

Front intercoxal space as wide as beak at middle; middle space slightly wider. Tibia with apical teeth visible; front tibia feebly arcuate; hind tibia with outer apical comb one-fourth or one-fifth length of tibia. Hind femur not reaching apex of elytra. Aedeagus with apex rounded; apodemes shorter than aedeagus; in profile not arcuate.

**Remarks.** The only other species with distinct denuded areas on the elytra that are more or less enclosed by scales is *orbignyi* from which *frater*

differs in having the scutellum hidden, the suture of the elytra not completely scaled, but the epipleura at base scaled.

The type of *frater* lacks both hind legs, one middle leg, and one front tarsus; it was glued almost flat on a small card.

*Lobaspis orbignyi*, new species  
Figures 26, 36

**Type Material.** Type, male, Chiquitos, Bolivia, d'Orbigny, collector, 1834, and paratype, same collector, Guarayos, Bolivia, both in Muséum National d'Histoire Naturelle, Paris; three paratypes from Bolivia, Santa Cruz, one, and Santa Cruz, Zischka, collector, two, "11.1955" and "8.2.55" in the Kuschel collection, Department of Scientific and Industrial Research, Auckland.

**Diagnosis.** Bare spotted species similar in pattern to *frater* but with suture of elytra entirely scaly, scutellum visible, and pronotal scaling somewhat different.

**Range.** Bolivia.

**Description.** Type, male, length 7 mm. Color pattern: black with elongate pale scales covering pronotum except for bare semicircular area on disc and for round bare spot on sides; elytra with extreme base and apex bare and black, also three bare black bands interrupted at suture by scales, and with scales on remainder of elytra, but not in humeral area at base of epipleura.

Eyes flat, feebly acuminate at lower end, above separated by width of base of beak. Beak arcuate, longer than pronotum, dorsally same width throughout. Antenna inserted at about middle of beak; antennal groove with upper edge carinate. Pronotum densely punctate. Scutellum visible as tiny, elongate granule.

Front intercoxal space almost as wide as beak; middle space slightly wider than front. Tibia with apical teeth visible; front tibia feebly arcuate; hind tibia with outer apical comb one-fourth length of tibia; hind femur not reaching apex of elytra. Aedeagus (of paratype from Santa Cruz) rather thick, with apex rounded-truncate to median emargination; apodemes longer than aedeagus.

**Variation from Type.** In one of the paratypes sparse scales almost cover the disc of the pronotum, which usually appears as a denuded



half circle. In the paratype from Guarayos, however, the entire pronotum is virtually devoid of scales.

*Etymology.* The species is named for Charles d'Orbigny, the well-known nineteenth-century naturalist and collector.

*Remarks.* The head of the type is sunk partially into the prothorax.

The elytral pattern of *orbignyi* is quite similar to that of *epemoebus*, but the dark bands of *orbignyi* do not cross the suture as they do in *epemoebus* and the dark bands are not covered with sparse scales. Both species are from Bolivia.

*Lobaspis squamosus* (Boheman)

Figures 28, 39, 40

*Cholus squamosus* Boheman, 1836, p. 572 (Brazil; type in Naturhistoriska Riksmuseum, Stockholm, examined).

*Cholus lepidotus* Boheman, 1836, p. 571 (Paraguay; type in Naturhistoriska Riksmuseum, examined). NEW SYNONYMY.

*Diagnosis.* Stocky, entirely scaly species, but only one specimen in 20 with full quota of scales, without worn bare spots. Similar to *unilinea* but smaller and with scutellum hidden. Legs generally with scales almost as wide as those of venter.

*Range.* Argentina, Bolivia, Brazil, and Paraguay (one specimen from French Guiana). (For 107 specimens examined, see Appendix.)

*Description.* Length 6 to 9 mm. Color pattern: dark red with yellow scales worn off generally in following parts, which are thus bare: center and convex sides of pronotum, humerus of elytra, subapical callus, scutellum, and area behind scutellum.

Eyes round, rather flat, above separated by width of beak at base. Beak arcuate, slightly longer than pronotum, dorsally same width throughout. Antenna inserted slightly behind middle or at middle; antennal groove with upper edge carinate, in some specimens with forked groove above. Pronotum with disc shallowly, but densely punctate. Scutellum not visible.

Front intercoxal space narrower than beak at middle, in some individuals no wider than antennal segment; middle space wider than front. Tibia with apical teeth visible; front tibia feebly arcuate; hind tibia with outer apical comb about

one-fourth length of tibia; hind femur not reaching apex of elytra. Aedeagus with apex rounded or slightly knobbed, in profile slightly arcuate; apodemes shorter than aedeagus.

*Remarks.* In the type of *lepidotus* (9 mm.) the scales on most of the pronotum and on a good part of the elytra are worn off, but it is otherwise similar to the type of *squamosus* (7 mm.), of which it is a synonym.

This species, except for a specimen from Cayenne and one from São Paulo, ranges farther south than the other species.

The front coxae are narrowly separated as in *lentiginosus*, but not quite so narrowly as those of *besckei*.

*Lobaspis unilinea*, new species

*Type Material.* Type, female, and paratype, probably female, Guarayos, [Santa Cruz], Bolivia, 1834, d'Orbigny, collector, in Muséum National d'Histoire Naturelle, Paris.

*Diagnosis.* Entirely scaly species differing from similar *squamosus* in having more strongly bilobed base of elytra, visible scutellum, line of scales at center of pronotum, not bare space, and fine hairs, not broad scales, on legs.

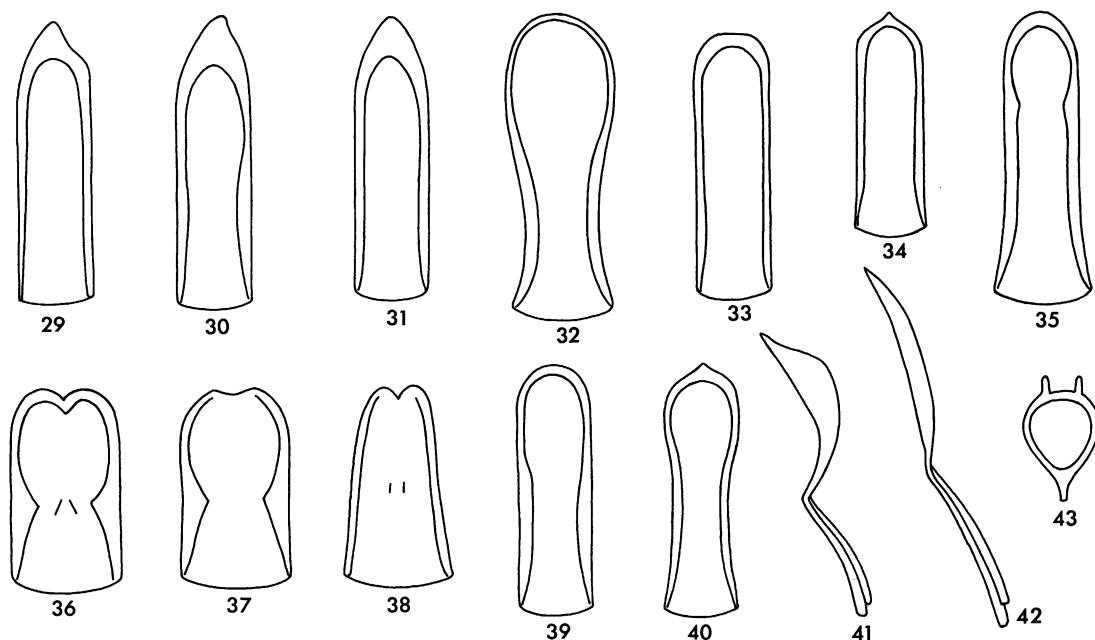
*Range.* Known only from type locality.

*Description.* Type, female, length 12 mm. Color pattern: black with pale, scarcely elongate scales in short median line in apical half of pronotum, also on sides and base of pronotum, but scales worn off on most of center of elytra; underside scaly (see paratype below).

Eyes rather flat, feebly acuminate at lower end, above separated by more than width of beak. Beak feebly arcuate, slightly longer than pronotum, dorsally feebly wider at apex. Antenna inserted virtually at middle; antennal groove not carinate. Pronotum with disc shallowly but densely punctate. Scutellum visible as tiny, elongate granule.

Front intercoxal space as wide as beak at middle; middle space twice as wide as front. Tibia with uncus almost obsolete; front tibia virtually straight; hind tibia with outer apical comb about one-fifth length of tibia; hind femur not reaching apex of elytra.

*Variation from Type.* The paratype, probably also a female, is 11.5 mm. and is more uniformly scaly, having the median line of scales on the



FIGS. 29-40. *Lobaspis*, dorsal view of aedeagus (apodemes not shown). 29-31. *L. aemulus*. 29. Chapare, Bolivia. 30. El Napo, Ecuador. 31. Amazonas, Brazil. 32. *L. maculatus*. 33. *L. irroratus*. 34. *L. besckei*. 35. *L. frater*. 36. *L. orbignyi*. 37. *L. lentiginosus*. 38. *L. epemoebus*. 39, 40. *L. squamosus*. 39. Misiones, Argentina, and Parana, Brazil. 40. Rio Vermelho, Brazil.

FIGS. 41, 42. Lateral view of aedeagus, showing apodemes. 41. *L. maculatus*. 42. *L. besckei*.

FIG. 43. Ring of tegmen with short parameres and short manubrium or handle.

pronotum entire, and the elytra with only two bare spots. The antennae and two of the legs are missing from this specimen and the head and pronotum have been glued; it was not dissected.

**Etymology.** From the Latin, *unilinea*, referring to the single line of scales at the center of the pronotum.

**Remarks.** A third female (dissected) in the Senckenberg Museum seemed at first to be this species, but it differs in having the front tibia arcuate, the beak thicker, and the scutellum as wide as long, not elongate; it is from "Bolivia." Definite placement of this specimen must await the examination of additional material.

#### ***Lobaspis lentiginosus*, new species**

Figures 24, 37

**Type Material.** Type, male, and two paratypes, Rio Santiago, Peru, September 5, 1930, H.

Bassler, collector, in the American Museum of Natural History; other paratypes from Peru: two, Callanga, one, Marcapata, [Cuzco], one, Tarapoto, [San Martin], and one male without specific locality, in Kuschel Collection, Department of Scientific and Industrial Research, Auckland.

**Diagnosis.** Similar to *epemoebus* from Bolivia in having both dense and sparse scales on elytra, but differing in having dense scales forming round spots, not crossbands, and scales of pronotum about same size as those of elytra, not hairlike and much narrower.

**Range.** Peru.

**Description.** Type, male, length 7.5 mm. Color pattern: black with pale scales of pronotum dense on sides and on median line, but sparse each side of center; elytra with dense scales in vague pattern of four nearly contiguous spots at base, four in front of middle (but not in

alignment), two postmedially and at sides, two in front of subapical callus and two at apex; intervening areas with sparse, scattered scales allowing surface to show through.

Eyes, beak, antenna, pronotum (except pattern), and scutellum (visible) as described for *orbignyi*, but eyes slightly more separated above and upper edge of antennal groove not carinate.

Front intercoxal space about as wide as last antennal segment; middle space more than twice as wide as front. Tibia with apical teeth visible; front tibia feebly arcuate; hind tibia with outer apical comb about one-fifth length of tibia; hind femur reaching apex of elytra. Aedeagus with apex slightly emarginate at middle; apodemes slightly longer than aedeagus; in profile arcuate.

*Variation from Type.* The paratypes range in length from about 7 to 10 mm. In two individuals the median scaly line of the pronotum is worn away. The elytral pattern of one specimen is more clearly defined than that of the type. In some specimens the scales of the intervening areas are more numerous, in some less numerous.

*Etymology.* From the Latin *lentiginosus*, meaning freckled, referring to the mottled dorsal surface.

*Remarks.* The spots of the elytra appear more distinct and better defined when specimens are viewed with the naked eye because in this way the intervening sparse spots are not visible and the spots stand out. The type and a male and female paratype were dissected.

#### ***Lobaspis epemoebus*, new species**

Figures 21, 38

*Type Material.* Type, male, and four paratypes, Ocobaya, Yungas [de] La Paz, Bolivia, January 2, 1949, Kuschel, collector, in Kuschel collection, Department of Scientific and Industrial Research, Auckland, and one paratype, same data, to be deposited in the American Museum of Natural History; also Bolivia: Chulumani, Yungas, [de La Paz], December 25, 1955, Peña, collector, one; and Coroico, Yungas, [de La Paz], one, both in Kuschel collection.

*Diagnosis.* Resembling *lentiginosus* but differing in having scales of elytra in alternating dense and sparse crossbands rather than in spots. Differing from other species (except *dresdeni*) in

fine hairs, not scales, at base and center of pronotum.

*Range.* Eastern slopes of Andes of Bolivia.

*Description.* Type, male, length 7.5 mm. Color pattern: black with yellow scales on sides of pronotum and fine elongate hairs on disc; elytra with dense scales in four bands (basal, median, postmedian, and apical), and sparser scales in intervening areas, allowing surface to show through.

Eyes, beak, antenna, pronotum, and scutellum as described for *lentiginosus* and *orbignyi* but pronotum covered with two types of vestiture.

Front intercoxal space slightly wider than last antennal segment; tibia and femur as described for *lentiginosus*. Aedeagus with apex emarginate at middle; apodemes longer than aedeagus; in profile arcuate.

*Variation from Type.* Some of the paratypes are reddish instead of black, and in all but one specimen the sparse scales of the elytral bands are rather worn, thus revealing more of the ground color below the scales and making these bands more contrasting with the densely scaled bands.

*Etymology.* From the Greek *epemoebus*, denoting the alternation of the elytral bands.

*Remarks.* To the naked eye the sparser bands appear as darkish bands alternating with yellow bands. The dark bands are not as dark or as clearly defined as those of *orbignyi* in which the bands are furthermore interrupted at the scaly suture.

The hairs of the pronotal disc are much finer and narrower than the scales laterally and the scales of the elytra.

#### **APPENDIX: SPECIMENS EXAMINED**

For convenience, the species, as well as the countries under each species, are listed alphabetically.

##### **GENUS *AMERHINUS* SAHLBERG<sup>1</sup>**

*Amerhinus dufresnei* Kirby

BRAZIL: 38; *Espirito Santo*: 1; Linhares,

<sup>1</sup>Note: Because the species of this genus are well known and abundant in collections, I have omitted data on their disposition.



Parque Sooretama, 2; Santa Leopoldina, 1. *Rio de Janeiro*: 91; São Bento, Duque de Caxias, 3.

NO LOCALITY or LOCALITY ILLEGIBLE: 42.

*Amerhinus olivieri* Boheman

ARGENTINA: Haut Parana, Teju Cuare near San Ignacio, 1

BRAZIL: 27 (including type of *olivieri*). *Espirito Santo*: 3; Linhares, Parque Sooretama, 1. *Minas Gerais*: S.[?] Paolo, 1. *Rio de Janeiro*: 6; Santo Antonio dos Brotos, 1; Alto da Boa Vista, Tijuca, 1; Floresta da Tijuca, 2. *Santa Catarina*: 1; Nova Teutonia, 2; Hansa Humboldt or Corupa, 24; Joinville, 1; Rio Vermelho, 1; Rio Natal, 2; São Francisco, 1. *São Paulo*: 17; Jabaquara, 1; São Paulo, 4; Santos-Guaraja, 1; Ribeirão Pires, 1; Rio Piracicaba, 2. *Rio de Janeiro* or *Santa Catarina*: Petropolis, 2.

FRENCH GUIANA: 1.

PARAGUAY: Paso Yobai, Caaguazu, 2; Hohenau, Alto Parana, 1; Hohenau, Campo Angelo, 2.

PERU: 1.

NO LOCALITY: 13.

*Amerhinus ynca* Sahlberg

ARGENTINA: Misiones, 1.

BOLIVIA: 1; Santa Cruz, 2.

BRAZIL: 67 (including type of *ynca*). *Amazonas*: Rio Negro, Moura, 2. *Bahia*: 11; Villa Nova, 1; Santa Ignez, 1; Belmonte, 3; Barueri, 3. *Distrito Federal*: Estação Sumare, 1. *Espirito Santo*, 3; Linhares, Parque Sooretama, 1; Santa Leopoldina, 1. *Goyaz*: Jatahy, 3. *Guanabara*: Corcovado, 1. *Minas Gerais*: 1; Vicosia, 2; Serra de Diamantina, 3; Caraça, 2; Matusinhos, 1. *Parana*: 2; Mattinhos, 1; Arapongas, 5; Curitiba, 1; Rolandia, 1; Caviuna, 2. *Rio Grande do Sul*: 4; Taquara, 1. *Rio de Janeiro*: 74; San Bento, Duque de Caxias, 5; Floresta da Tijuca, 5; Mendes, 2; Montagnes des Orgues, 3; Lagune de Sacuaresma, 1. *Santa Catarina*: 3; Corupa, 3; Cauna, 3; Rio Natal, 1; Lanca, 1; Mafra, 1; Rio Vermelho, 1. *São Paulo*: 15; San Bernardo, 1; São Paulo, 3; Cantareira, 1; Ypiranga, 9; Santo Amaro, 3; Poço Grande, 1; Ytu, 1; Matta do Governo, 1; Raiz da Serra, 1; Salesopolis, Casa Grande, 1; Rio Piracicaba, 2; Val du Rio Pardo, 1. *Rio de Janeiro* or *Santa Catarina*: Petropolis, 1.

PARAGUAY: 2; Paso Yobai, 1; Hohenau, 3.

PERU: Payta, 2.

NO LOCALITY: 58.

STATE?: Queluz, 1.

GENUS *LOBASPIS* CHEVROLAT

In this genus the institution or individual to which the specimens belong are indicated by letter symbols in parentheses as follows:

AM, the American Museum of Natural History, New York

B, Zoologisches Museum, Berlin

BM, British Museum (Natural History), London

CS, C. A. Campos Seabra, Rio de Janeiro

D, Staatliches Museum für Tierkunde, Dresden

KU, Kuschel collection, Division of Entomology, DSIR, Auckland

MU, Zoologische Staatssammlung, Munich

NR, Naturhistoriska Riksmuseum, Stockholm

P, Muséum National d'Histoire Naturelle, Paris

S, Senckenberg Museum, Frankfurt

SP, Museu de Zoologia, São Paulo

US, National Museum of Natural History, Smithsonian Institution, Washington, D. C.

V, Naturhistorisches Museum, Vienna

*Lobaspis aemulus* Pascoe

BOLIVIA: Chapare, San Antonio, 1(KU).

BRAZIL: *Amazonas*: 6 (B, KU, NR, P, and type of *aemulus* Pascoe, BM); São Paulo de Olivença, 4 (KU); Massanary, 2 (KU); Rio Autaz, 1 (KU); Manaus, 1 (BM); Tapajoz, 1 (BM).

ECUADOR: El Napo, 1 (KU).

PERU: 1 (P); Pebas, 1 (P); Rio Marañon, 1 (AM); Chambireyacu, near Yrimaguas, Huallaga, 1 (KU).

NO LOCALITY: 5 (BM, and type of *aemulus* Desbrochers des Loges, P).

*Lobaspis besckei* Fahraeus

BRAZIL: 9 (D, P, US, and type, NR). *Goyaz*: 1 (SP). *Rio de Janeiro*: 7 (BM, P). *Santa Catarina*: Pinhal, 3 (KU). *São Paulo*: Jabaquara, 1 (KU); Cesar, 1 (P).

NO LOCALITY: 4.

*Lobaspis dresdeni*, new species

BRAZIL: (see under the species in the text).

*Lobaspis epemoebus*, new species

BOLIVIA: (see under the species in the text).

*Lobaspis frater* Desbrochers des Loges

BRAZIL: 1 (type, P). *Goyaz*: 3 (US); Jatahy, 10 (KU, P, BM). *Mato Grosso*: Corumba, 2 (KU, P).

PARAGUAY: Horqueta, 1 (P); San Luis, 1 (V).

*Lobaspis irroratus* Guérin-Ménéville

BRAZIL: 1 (P). *Amazonas*: 1 (KU).

FRENCH GUIANA: 1 (US); Maroni River, 2 (US); Cayenne, 22 (B, D, KU, P, S); Roches de Kourou, 1 (P); Gourdonville, Rivière de Kourou, 2 (P).

SURINAM: 2 (D, P).

TRINIDAD: Maracas Valley, 1 (BM).

NO LOCALITY: 7.

*Lobaspis lentiginosus*, new species

PERU: (see under the species in the text).

*Lobaspis maculatus*, new species

BRAZIL: (see under the species in the text).

*Lobaspis orbignyi*, new species

BOLIVIA: (see under the species in the text).

*Lobaspis pulchellus* Pascoe

FRENCH GUIANA: Roches de Kourou, 1 (KU); Cayenne, 2 (including type, BM).

*Lobaspis squamosus* Boheman<sup>1</sup>

ARGENTINA: *Misiones*: 1; Pindapoy, 4; Corro ?, 1; San Ignacio, 1; Loreto, 1; Salto Iguazu, 1.

BOLIVIA: 3; Chimore, 1.

BRAZIL: 10 (including type of *squamosus*). *Parana*: Biturun. *Santa Catarina*: Mafra, 9; Rio Natal, 1; Rio Vermelho, 11; Corupa, 8. *São Paulo*: 1. *Rio Grande do Sul*: 1. Cruz Alta, 2; Porto Alegre, 4; São Leopoldo, 1; Villa Oliva, 2; Nova Hamburgo-Vacaria, 1; Pelotas, 1.

FRENCH GUIANA: Cayenne, 1.

PARAGUAY: 3 (type of *lepidotus*). Rio de la Plata, 1; Hohenau, 9; Naranjal, Cantera, 4; San Estanislao, 1; Campo Angelo, 2.

NO LOCALITY: 12.

<sup>1</sup>Institutions not given for *squamosus*.

*Lobaspis unilinea*, new species

BOLIVIA: (see under the species in the text).

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