

# THE TENEBRIONIDAE OF SOUTHERN AFRICA

## XXXIX. — A revised Key to the Larvae of *Onymacris* Allard (Coleoptera: Adesmiini)

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(With 6 figures and 3 plates)

### INTRODUCTION

Since the first description of *Onymacris* larvae (Schulze, 1962), larvae of several other species have been reared in the insectarium of the Transvaal Museum. Most of the parent beetles were collected by Dr. C. Koch, to whom I am greatly indebted for supplying the specimens for breeding and for his continued encouragement.

All known *Onymacris* larvae are now incorporated into the new key. In connection with the illustrations, an identification of medium-sized to full-grown larvae of *Onymacris* All. is provided without detailed descriptions, as the larvae in the different groups are very uniform in their characters apart from those referred to in the key.

The *Onymacris* larvae, so far known, can be divided into three distinct groups, the *bicolor marshalli*, the *rugatipennis* and the *unguicularis* group. The only exception is *O. plana* which shows some characteristics of the *rugatipennis* and some of the *unguicularis* group. The features which refer this species to the *rugatipennis* group are the shape of the ninth abdominal tergum (pl. I, b) and the pointed main setae on it. The fineness and density of the intermediate setae however resemble that of the *unguicularis* group, also the dense vestiture on ventral surface of front legs, which even extends over the whole surface of the coxa (pl. III, d). This never occurs in other known species of the *rugatipennis* group, but in the *unguicularis* group. Yet, as it is seen in *O. bicolor marshalli* Ko. and *O. brincki* Ko. (figs. 1, 2), the arrangement of setae on front legs does not unconditionally indicate relationship. The much more important feature is the shape of the ninth abdominal tergum and its kind of vestiture.

Thus the three groups may be readily distinguished as set out in the key. The first group consists

of *O. bicolor marshalli* Ko. and *O. brincki* Ko., the second group comprehends *O. rugatipennis* H., *O. marginipennis palgravei* Pér., *O. multistriata* H., *O. albo-tessellata* Ko., (in litt.), *O. boshimana* Pér., *O. lobicollis* Fm., *O. subelongata* Gb. and *O. plana* Pér., the third group finally is composed of *O. unguicularis* H., *O. ex aff. unguicularis* H. and *O. laeviceps* Gb.

I have to correct the statement in the previous key, that only *O. plana*, *O. unguicularis* and *O. laeviceps* show a stripe of fine microbristles along anterior margin of meso-metanotum and first abdominal notum, for all examined species have the same arrangement although it is often hard to detect.

### KEY TO THE SPECIES OF *ONYMACRIS* ALL.

1. Ninth abdominal tergum pointed, triangular, subisosceles, about a tenth longer than wide; setae on apex small, spherical from above (pl. II, a).
  - bicolor marshalli* group . . . . . 2
- Ninth abdominal tergum oval, one fifth to one third longer than wide; main setae on apex pointed, very prominent in comparison with the fine intermediate setae. (If, in one case, the main setae are rather fine and the intermediate setae very densely set, then ninth abdominal tergum always broad-ovate and main setae pointed *O. plana*, pl. I, b).
  - rugatipennis* group . . . . . 3
- Ninth abdominal tergum oblong-triangular to elongate-ovate, one half to more than twice as long as wide; main setae on apex small, blunt, their sides of sub-equal width, not very prominent in comparison with the very dense vestiture

of the intermediate setae, which gives the apex and sides a furry appearance (pl. III, c, fig. 5).

*unguicularis* group . . . . . 10

2. Ventral surface of tibiotarsus of front leg with scattered setae, femur and trochanter densely covered with spherical setae (fig. 2). Lateral setae of head extending considerably dorsally forming a triangular patch which narrows strongly basally.

*brincki* Koch

Fourteen larvae. Largest larva 37 mm. long, 3.8 mm. broad, head-capsule 2.8 mm. wide. Parents from 16 miles SE. of mouth of Unjab River (southern part of Skeleton Coast, Northern Namib). October 1961, C. Koch leg.

- Ventral surface of tibiotarsus of front leg bare, femur and trochanter with large bare patches (fig. 1). Lateral setae of head extending only a short distance dorsally forming an elongate stripe with subparallel sides.

*bicolor marshalli* Koch

Three hundred and twenty-five larvae, mainly the very earliest stages. Largest larva (hind body broken off) 2.6 mm. broad, head-capsule 2 mm. wide; second largest larva 19 mm. long, 2 mm. broad, head-capsule 1.6 mm. wide. Parents from Porto Alexandre (Angola, Northern Namib). October 1956, C. Koch leg.

3. Pseudopodia slender coniform, the long pointed apices freely to be seen in lateral view, in caudal view exterior contour slightly convex (pl. II, c). . . . . 4

- Pseudopodia stout coniform, the short blunt apices hardly or not to be seen in lateral view, in caudal view exterior contour strongly convex (pls. II, d; III, a). . . . . 6

4. Apex of ninth abdominal tergum rounded; anterior bare part three times longer than apical setose part; setae small, twice as long as broad (pl. I, a).

*rugatipennis* Haag

Eighty-nine larvae in different stages. Largest larva 45 mm. long, 4.8 mm. broad, head-capsule 3.8 mm. wide. Parents from Kuiseb-area (Southern Namib). October 1957, June 1961, C. Koch leg.

- Apex of ninth abdominal tergum pointed; anterior bare part twice as long as apical setose part; setae long, four to five times longer than broad (pl. II, b). . . . . 5

5. Setae on ninth abdominal tergum decreasing very little in size toward apex (pl. II, b).

*albo-tessellata* Koch (in litt.)

Thirteen larvae in different stages. Largest larva 42 mm. long, 4.5 mm. broad, head-capsule 3.6 mm. wide. Parents from area of fossilized dunes between Ababis and Felsenneck (Southern Namib). October 1962, C. Koch leg.

- Setae on ninth abdominal tergum decreasing considerably in size towards apex to half or less of the length of the anterior setae.

*multistriata* Haag

Forty-five larvae in different stages. Largest larva 35 mm. long, 3.5 mm. broad, head-capsule 2.7 mm. wide. Parents from Twee Rivieren (Southern Kalahari). October 1957, C. Koch leg., February 1962, O. P. M. Prozesky leg.

6. Poststernella of meso- and metasternum with brown scales (larvae must have reached final tint). Density of main setae on ninth abdominal tergum strongly increasing towards apex; apical main setae about a half shorter than those anteriorly (pl. I, d).

*marginipennis palgravei* Péringuey

Thirty-five larvae in different stages. Largest larva 53 mm. long, 4.6 mm. broad, head-capsule 3.5 mm. wide. Parents from Walvis Bay, October 1957 and Swakopmund, October 1961 (Southern Namib), C. Koch leg.

Poststernella of meso- and metasternum without scales. Density of main setae on ninth abdominal tergum not increasing towards apex; apical main setae not considerably shorter than those anteriorly . . . . . 7

7. Ventral surface of tibiotarsus, femur and trochanter of front leg densely covered with setae (pl. III, d). Intermediate setae on ninth abdominal tergum very dense, main setae very small, not very conspicuous, setose area has furry appearance (pl. I, b).

*plana* Péringuey

Twenty-eight larvae in different stages. Largest larva 45 mm. long, 4 mm. broad, head-capsule 3.5 mm. wide. Parents from Kuiseb-area (Southern Namib). October 1957, November 1961, October 1962, C. Koch leg.

- Ventral surface of tibiotarsus of front leg bare, femur and trochanter with large bare patches. Intermediate setae on ninth abdominal tergum scattered, main setae conspicuous . . . . . 8

8. Sides of ninth abdominal tergum more strongly narrowing towards apex behind middle, bare part almost two-and-a-half times longer than apical setose part; setae three times longer than broad (fig. 6, pl. III, a).

*lobicollis* Fairmaire

Twenty-four larvae in different stages. Largest larva 44 mm. long, 3.6 mm. broad, head-capsule 2.9 mm. wide. Parents from Luderitzbucht (Southern Namib). September 1962, C. Koch leg.

- Sides of ninth abdominal tergum more strongly narrowing towards apex in front of middle, bare part less than twice to twice as long as apical setose part; setae four-and-a-half to seven times as long as broad . . . . . 9
9. Main setae on ninth abdominal tergum four-and-a-half times longer than broad; intermediate setae intense reddish-brown, bristly (pl. I, c).

*boshimana* Péringuey

Twenty-four larvae in different stages. Largest larva 50 mm. long, 5 mm. broad, head-capsule 4 mm. wide. Parents from dunes 62 miles E. of Springbok (Bushmanland). August 1961, L. Schulze leg.

- Main setae on ninth abdominal tergum six to seven times longer than broad; intermediate setae light umber, very fine (fig. 4).

*subelongata* Gebien

Six larvae in different stages. Largest larva 46 mm. long, 4.5 mm. broad, head-capsule 3.8 mm. wide. Parents from between Haalenberg and Aus (Southern Namib). September 1962, C. Koch leg.

10. Ninth abdominal tergum twice to more than twice as long as broad, strongly projecting beyond pygopodia; anterior margin of setose area undulate, anterior bare area one-and-a-quarter longer than setose area, the latter medianly almost growing together, leaving only a small clear, ovate patch in centre. (pl. III, b, c).

*laeviceps* Gebien

Eight larvae in different, mostly rather early stages. Largest larva 17 mm. long, 1.7 mm. broad, head-capsule 1.6 mm. wide. Parents from Tsauchab-Sossus Vlei, October 1957 and Gobabeb, October 1961 (Southern Namib), C. Koch leg.

One larva collected at Namitsis (Southern Namib), November 1962, W. Haacke and D. Brown. Size: 57 mm. long, 3.5 mm. broad, head-capsule 3.2 mm. wide.

- Ninth abdominal tergum at the utmost twice as long as wide, only slightly projecting beyond pygopodia; anterior margin of setose area wing-like arcuate, anterior bare area medianly about

one-and-a-half longer than setose area; the two halves of setose area separated by a narrow clear passage, only slightly covered anteriorly (figs. 3, 5).

*unguicularis* Haag

Eleven larvae, rather young stages. Largest larva 26 mm. long, 2 mm. broad, head-capsule 1.9 mm. wide. Parents from Walvis Bay, October 1957 and Swakopmund, October 1961 (Southern Namib), C. Koch leg.

*ex aff. unguicularis* Haag

Eight larvae, rather young stages. Largest larva 22 mm. long, 1.9 mm. broad, head-capsule 1.7 mm. wide. Parents from 16 miles SE. of mouth of Unjab River (southern portion of Skeleton Coast, Northern Namib). October 1961, C. Koch leg.

The larvae of *O. unguicularis* and *O. ex aff. unguicularis* are very similar. The only discernible difference found in freshly preserved specimens up to the size of 24 mm., is the more elongated ninth abdominal tergum of *O. unguicularis* which is three-quarters longer to twice as long as broad, while the respective measurements of *O. ex aff. unguicularis* are one third to one half longer than broad, but with older material the proportions may prove to be overlapping and not reliable.

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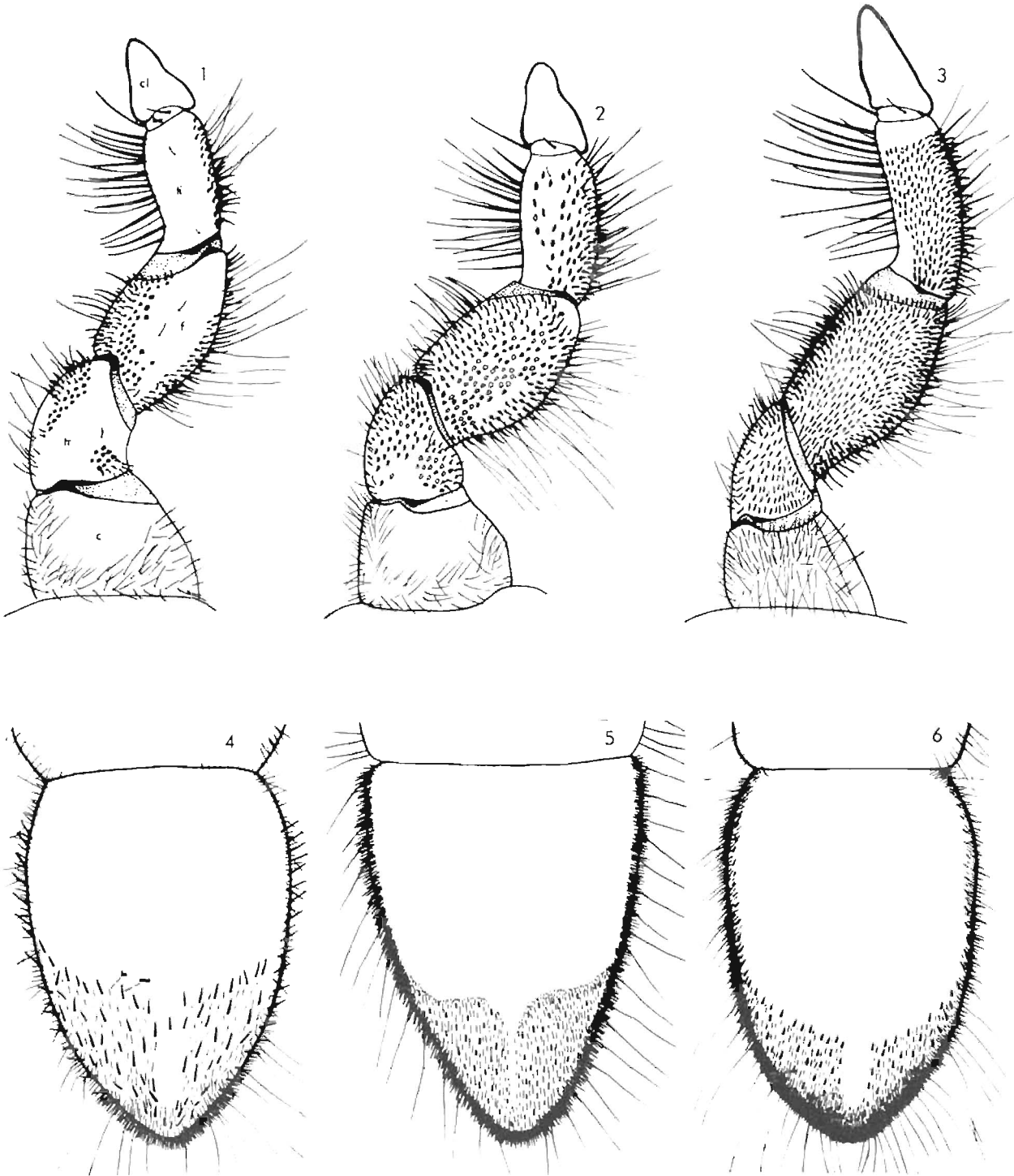
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FIGS. 1 — 3: *Onymacris*, ventral surface of left front leg. ba, base of claw; c, coxa; cl, claw; f, femur; ti, tibiotarsus; tr, trochanter. Fig. 1: *O. bicolor marshalli*; fig. 2: *O. brincki*; fig. 3: *O. unguicularis*.

FIGS. 4 — 6: *Onymacris*, ninth abdominal tergum. is, intermediate seta; ms, main seta. Fig. 4: *O. subelongata*; fig. 5: *O. ex aff. unguicularis*; fig. 6: *O. lobicollis*.

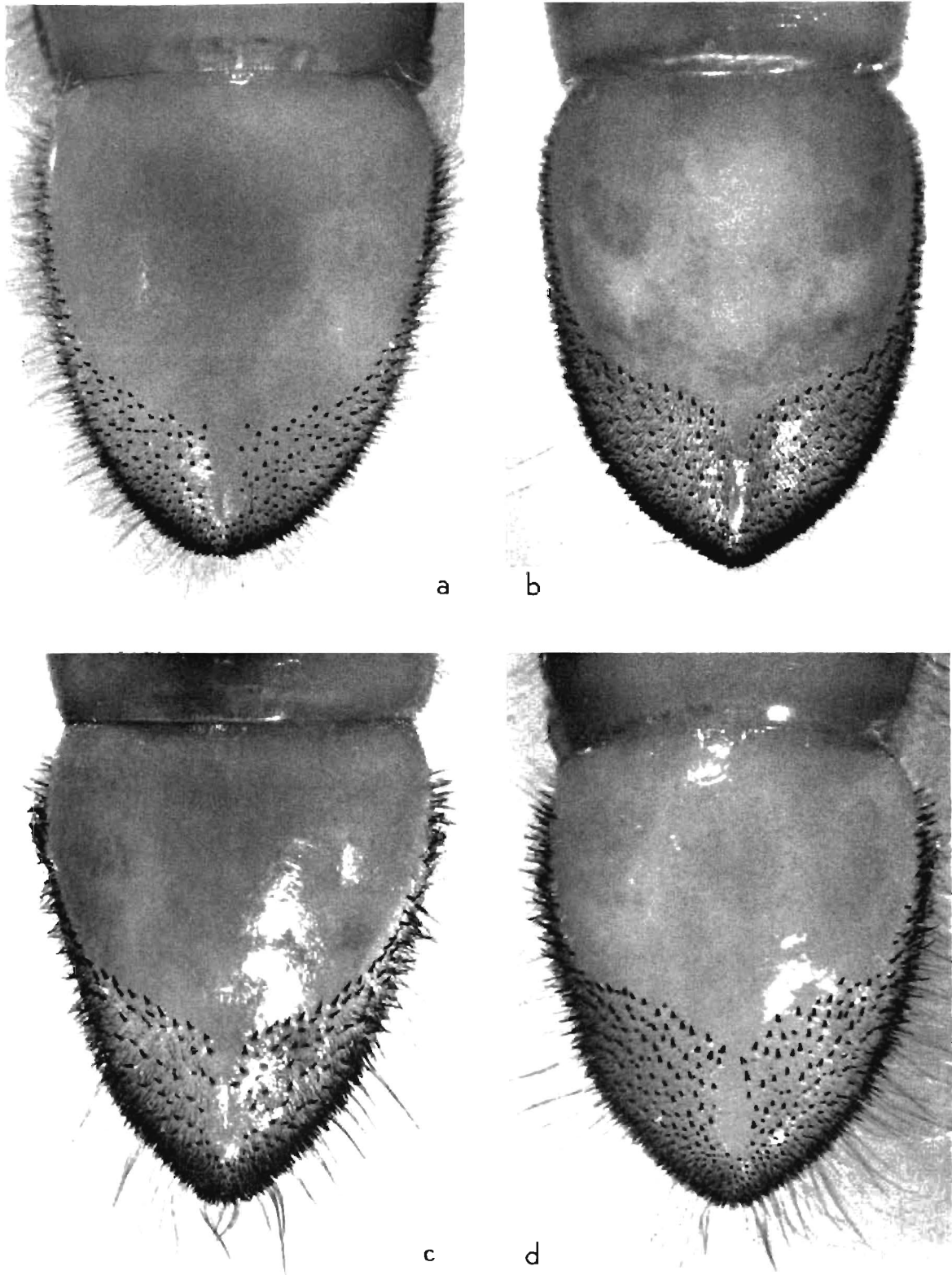


PLATE I: *Onymacris*. ninth abdominal tergum. a: *O. rugatipennis*, 22 x; b: *O. plana*, 26 x; c: *O. boshimana*, 24 x; d: *O. marginipennis palgravei*, 23 x.

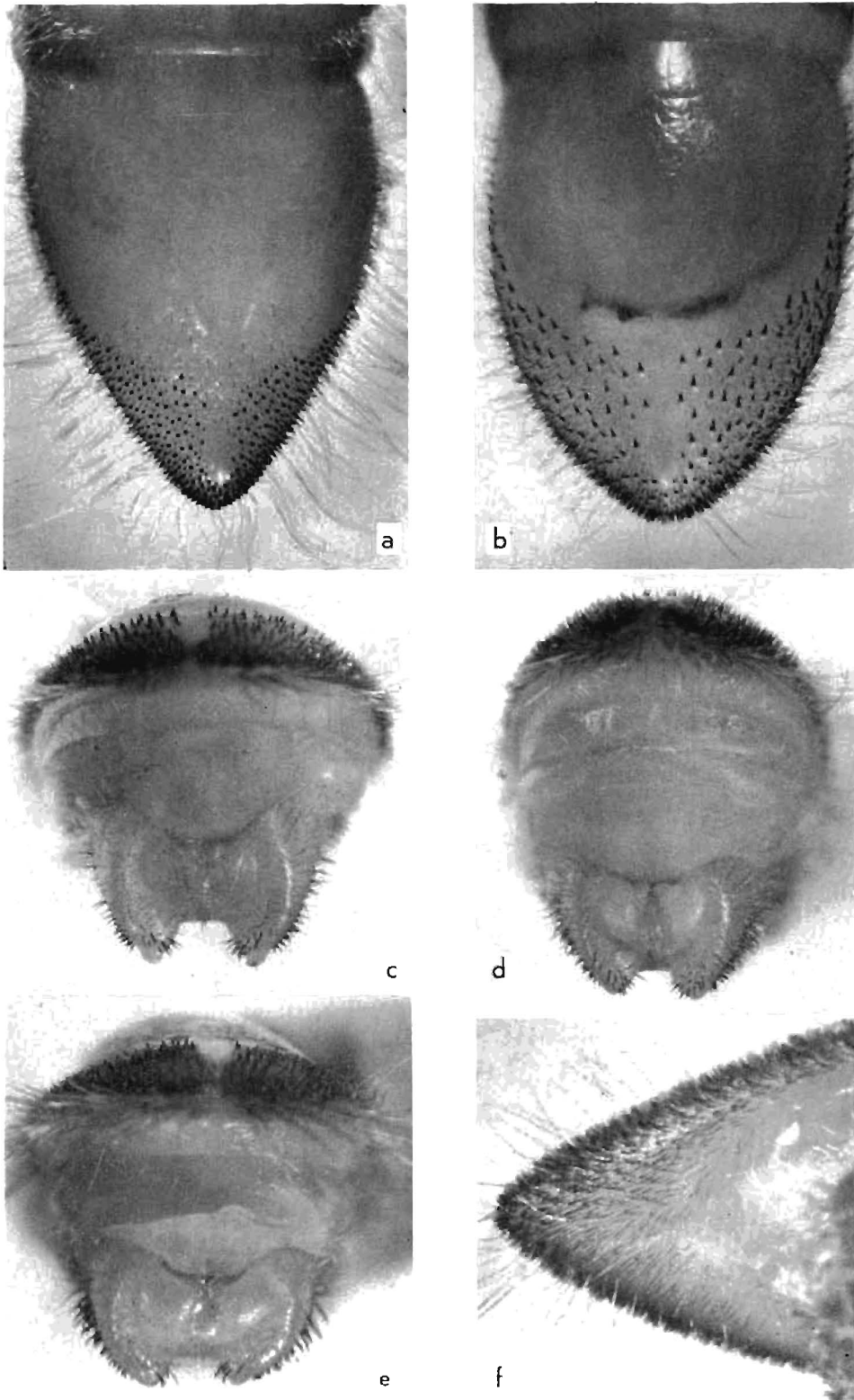


PLATE II: *Onymacris*, ninth abdominal tergum. — Dorsal view. a: *O. brincki*, 35 x; b: *O. albo-tessellata*, 26 x. — Caudal view, plus pygopodia. c: *O. rugatipennis*, 22 x; d: *O. boshimana*, 25 x; e: *O. lobicolis*, 27 x. — Under side. f: *O. laeviceps*, 30 x.