

Acrostichal hairs in six rows which are sometimes very irregular. No prescutellars. Anterior scutellars slightly divergent, in some specimens almost parallel. Thorax dark brown, dull, without a distinct pattern but sometimes slightly lighter on a median area limited by the two dorsocentral rows, the transversal suture and the anterior pair of dorsocentrals. Pleurae blackish brown, especially mesopleurae and sternopleurae with a gray tinge when looked at from certain angles. Anterior sternopleural $1/2-3/5$ posterior and much finer; middle sternopleural varies in length from about $1/2$ anterior to almost as long as this. Coxae blackish brown, femora brown, tibiae and tarsi yellowish brown. Apical bristles on first and second tibia, especially long and stout on second tibia. Preapicals on all three tibiae. Fine recurved hairs on foretarsi, strongest developed in the males.

Abdomen with a pattern as follows. First tergite blackish brown. Second tergite blackish brown with a faint yellow band on the anterior margin far from reaching the lateral margins of the tergite. Third tergite blackish brown with an anterior yellow band far from reaching the lateral margins. In some specimens the anterior band on the third tergite is expanded posteriorly along the middorsal line, in other specimens it is on the contrary narrowed, and in a few specimens the band is completely interrupted medially so that a blackish brown extension touches the anterior margin of the tergite. Fourth tergite blackish brown with an anterior yellow band which is far from reaching the lateral margins and which is most often interrupted along the middorsal line. Fifth tergite as the fourth except that the yellow band is narrower and less distinct. Sixth and (in the ♀♀) seventh tergite all blackish brown; sometimes the sixth tergite shows traces of an anterior lighter band that is medially interrupted.

Wings yellowish brown, veins darker. Crossveins black clouded. Apex of first costal section with two prominent bristles, one of which is considerably stouter than the other. Third costal section with heavy bristles on basal $1/2-3/5$. Costal-index: 3.5-4.0; 4th-vein-index: 1.5-1.9; 5-x-index: 1.0-1.0. Halteres grayish yellow, apical segment darkened proximally.

Length of body: 2.9-3.5 mm.

Length of wings: 2.7-3.0 mm.

Two anterior Malpighian tubes, simple; posterior arms with ends apposed but without forming a continuous lumen. Testes bright yellow, with about four inner and six outer coils. Sperm pump with two rather thick diverticula, the length of which is 1.5-2.0 times the greatest width of the sperm pump. Ventral receptacle with about 60 coils, gradually decreasing in width distally. Spermathecae weakly chitinized, pear-shaped (see figure 1).

TWO NEW SPECIES OF *DROSOPHILA* FROM PERU
(Drosophilidae, Diptera) (*)

BY

OVE FRYDENBERG

Departamento de Biologia Geral da Universidade de São Paulo
and
University, Institute of Genetics, Copenhagen.

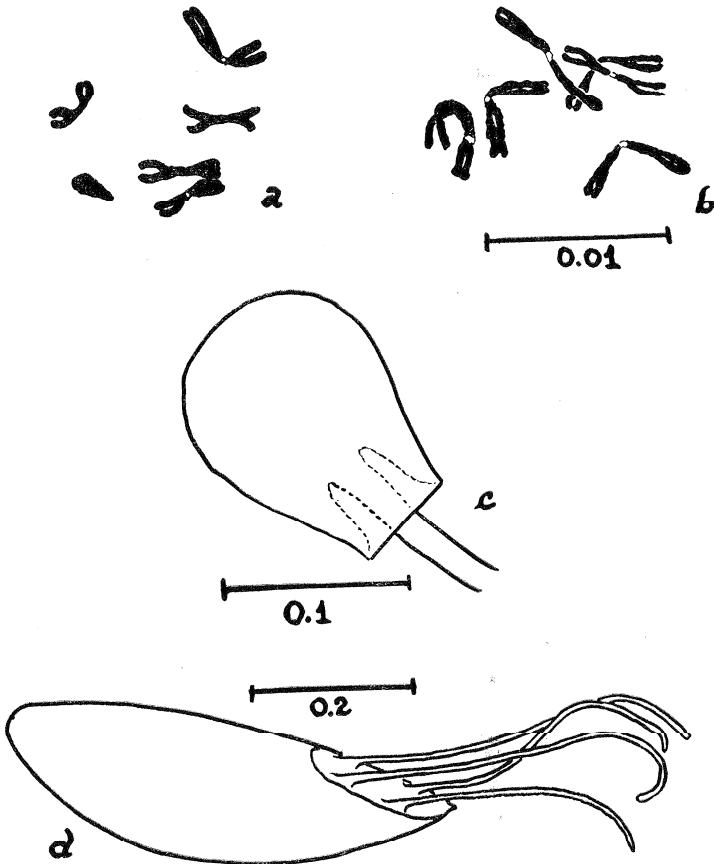
This paper contains descriptions of two new species of the genus *Drosophila*, subgenus *Drosophila*. The species were collected in Peru by Professor C. Pavan to whom the author wishes to express his sincere thanks for the permission to study the material. The work was carried out while the author held a fellowship from the University of São Paulo, supplemented by a Rockefeller Travel Grant. Financial aid for the work was also given by the Conselho Nacional de Pesquisas. To all these Institutions the author is very thankful.

Drosophila neoguaramunú, sp. n.

♂ & ♀: Arista with 10-13 branches, 11 being the most frequent number. Antennae dark tan, second segment dorsally with a dark brown spot; dorsal side of third segment also somewhat darkened. Front velvety yellowish brown with a grayish tinge, orbits lighter, space between ocelli darker, almost black. Anterior orbital about $\frac{3}{5}$ posterior; middle orbital very thin, $\frac{1}{5}$ the posterior. Two prominent oral bristles, the second slightly shorter than the first. Face yellowish brown, most often darker than front. Carina large and broad with a flattened surface, not sulcate. Cheeks brown, darkest just under the eyes, lighter posteriorly, their greatest width about $\frac{1}{5}$ greatest diameter of eye. Eyes red with a fine brownish yellow pile.

(*) Publication n.º 142 from the Departamento de Biologia Geral da F.F.C.L. da Universidade de São Paulo.

Eggs with four slender filaments, two of which are inserted distinctly more posteriorly than the other two. The posterior filaments about as long as the egg, anterior about 2/3 that length (see figure 1).



D. neoguaramunú, sp. n. — Fig. 1 - *a*: Metaphase plate from the brain of a male. *b*: Metaphase plate from the brain of a female. *c*: Spermatheca. *d*: Egg. All scales are in millimeter.

Puparia yellow, horns slender, frequently bent. Horn index about 5. Each anterior spiracle splits in 13-15 long branches. Posterior spiracles diverging, black.

Chromosomes: 2 pairs of V-shaped autosomes, 1 V-shaped X-chromosome and a considerably shorter Y-chromosome that is apparently rod-shaped. *D. neoguaramunú* has thus only four pairs

of chromosomes and it differs in this respect from the other species of the group which have five (*D. guarajá* King) or six pairs of chromosomes (2).

DISTRIBUTION: Tingo Maria, Peru (type locality) and Tarapoto, Peru, both September 1955.

RELATIONSHIP: Being a brownish species with mesonotum and pleurae pollinose, divergent scutellars, clouded crossveins, two prominent oral bristles, and having four egg filaments, the species is with certainty assigned to the Guaraní group. It agrees with King's description (1) of the Guaramunú subgroup in having the ends of the posterior Malpighian tubes apposed but without a continuous lumen and in lacking differentiated bristles on the anal plates.

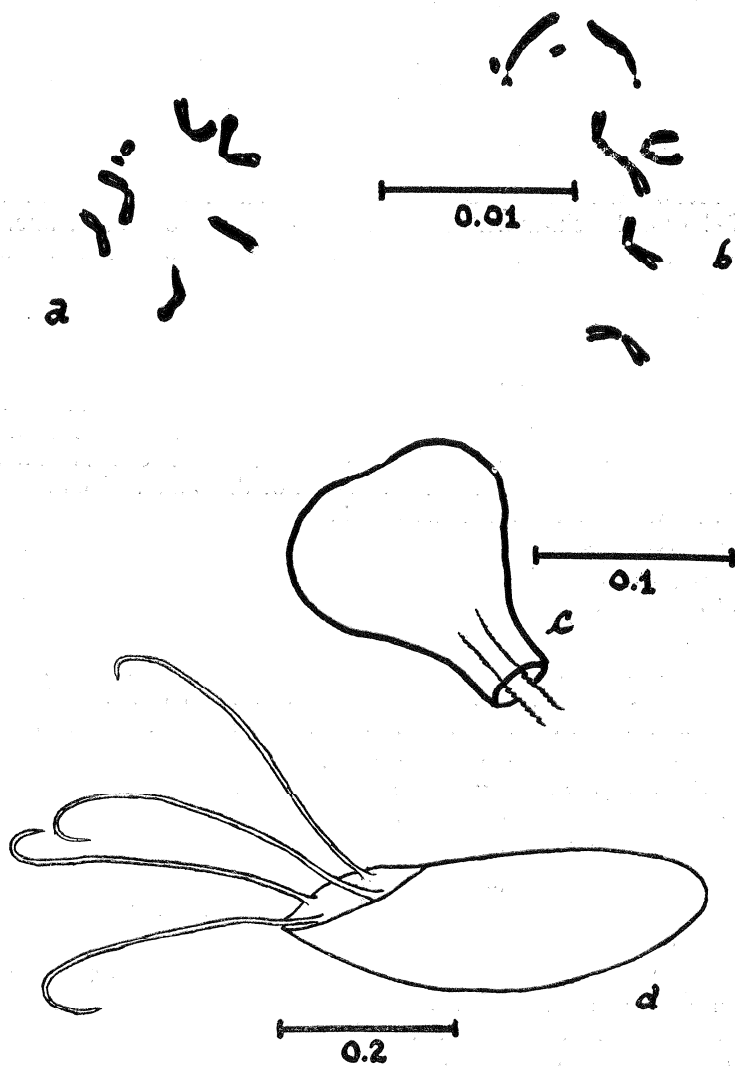
TYPE: ♂ from Tingo Maria, Peru, preserved in the collection of the Departamento de Zoologia da Secretaria da Agricultura, S. Paulo, Brazil.

Drosophila procardinoides, sp. n.

♀ & ♂: Arista with 9-12 branches, 10 being the most frequent number. Antennae yellowish brown, third segment darker than the second. Front velvety grayish yellow, orbits slightly lighter, space between ocelli blackish brown. Anterior orbital about 4/5 posterior, middle orbital very slender, about 1/4 length of posterior and inserted equal distance from the two stouter orbitals. Two equally long oral bristles. Face grayish yellow; carina slightly lighter, more purely yellow, large, broad, nose-shaped with a flattened surface, not sulcate. Cheeks brownish yellow, darkest along the eye border; greatest width of cheeks about 1/4 greatest diameter of eyes. Eyes red with a short dense black pile.

Acrostichal hairs usually in six regular rows but sometimes seven or eight rows can be counted. Thorax brown, strongly shining, without pattern. Pleurae blackish brown, darkest ventrally, shining. Anterior sternopleural 2/3 posterior and considerably thinner than this. Legs brownish, coxae and femora almost as dark as the pleurae, tibiae and tarsi lighter. Apical bristles on first and second tibiae, preapicals on all three pairs of tibiae.

Abdomen polished, shining, with a pattern as follows. First tergite dark brown, in some specimens only slightly lighter on the median area, in other specimens with a yellow median spot. Second tergite dark brown, lighter on the median area and dorsally along the anterior margin. Third and fourth tergites dark brown with a distinct yellow band along the anterior margin. The yellow band does not reach the lateral margin of the tergite but covers only the median two-fourths of the tergite. In the median line the band has a posterior extension almost reaching back to the poste-



D. procardinoides, sp. n. — Fig. 2 - *a*: Metaphase plate from the brain of a male. *b*: Metaphase plate from the brain of a female. *c*: Spermatheca. *d*: Egg. All scales are in millimeter.

rior margin of the tergite. Fifth tergite blackish brown, sometimes a little lighter medially. Sixth tergite entirely blackish brown. Seventh tergite (in ♀ ♀) blackish brown, less shining, and slightly lighter along the posterior margin. Under certain reflections of the light the yellow areas have a whitish opaque appearance.

Wings yellow, veins brownish, crossveins slightly darker than the other veins. Apex of the first costal section with two prominent bristles, one considerably stouter than the other. Third costal section with heavy bristles on its basal $1/3$. Costal-index: 3.7-4.4; 4th-vein-index: 1.5-1.8; 5-x-index: 1.0-1.5. Halteres grayish yellow, the apical segment brown basally on the dorso-anterior side.

Length of body: 2.5-3.2 mm.

Length of wings: 2.3-2.9 mm.

Anterior Malpighian tubes branched into two only in its distal $1/5$. The ends of the branches are free. Posterior Malpighian tubes with fused ends. Testes yellow with about six outer and five inner coils. Sperm pump with two slender diverticula, about three times as long as the greatest width of the pump. Ventral receptacle with about 35 smaller and 35 bigger coils. Spermathecae rather weakly chitinized, shaped as an inverted flower vase.

Eggs with four slender filaments, each as long as the egg itself (see figure 2).

The larvae have been observed to skip.

Puparia brownish yellow. Horn slender, often bent and not seldom glued to the surface of the puparium. Horn index about 5.5, anterior spiracles with 6-7 longer and about 4 shorter branches. Posterior spiracles divergent, yellow.

Chromosomes: 2 pairs of V-shaped, 1 pair of long rod-shaped chromosomes with satellites, and 1 pair of rather great dot-shaped chromosomes (see figure 2).

DISTRIBUTION: Huadquiña, on the margin of the Urubamba River, Peru (type locality) and Tingo Maria, Peru, both September 1955.

RELATIONSHIP: *D. procardinoides* belongs to the subgenus *Drosophila*. Inside this subgenus the following complex of characters makes it probable that the species is to be assigned to the *Cardini* group: It is a brilliant species with convergent anterior scutellars, unclouded crossveins, a costal-index about 4, with fused posterior Malpighian tubes, and skipping larvae (3).

TYPE: 1 ♀ from Huadquiña, Peru, preserved in the collection of the Departamento de Zoologia da Secretaria da Agricultura, São Paulo, Brazil.

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