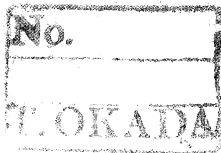


To Prof. Dr. Okada  
with compliments  
of Fei-Jann Lin



23

Bull. Inst. Zool., Academia Sinica 10(2): 69-72 (1971)

A NEW SPECIES OF *POLYCHAETA* SPECIES GROUP OF  
SUBGENUS *DROSOPHILA* FROM TAIWAN (*DROSOPHILA*,  
*DROSOPHILIDAE*, *DIPTERA*)

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Received for publication November 1971

ABSTRACT

F. J. Lin and H. C. Tseng (1971). A new species of *polychaeta* species group of subgenus *Drosophila* from Taiwan (*Drosophila*, *Drosophilidae*, *Diptera*). Bull. Inst. Zool., Academia Sinica, 10(2): 69-72. A new species, *Drosophila* (*Drosophila*) *asper* of *polychaeta* species group was first found from Taiwan (Oriental region). The rest three species, *D. illota* Williston, *D. polychaeta* Patterson & Wheeler and *D. grandis* Kikkawa & Peng were found from Neotropical, Nearctic and Palearctic regions respectively. A key to the species group is listed.

*Polychaeta* species group was first established by Sturtevant (5) with the characters of "large reddish brown species, three pairs of postsutural dorsocentral bristles, costal index about 2.0, 4V index 1.8 to 2.2"; including *Drosophila polychaeta* Patterson & Wheeler, 1942 (Galveston, Texas, Nearctic region) (3,4), probably *D. illota* Williston, 1896 (St. Vincent, West Indies; also Costa Rica, Panama and Brazil; Neotropical region) (3,5,6), and perhaps *D. grandis* Kikkawa & Peng, 1938 (Kohu and Kyoto, Palearctic region) (2, 3).

In adding this species from Taiwan, total of four species were found. The geographical distribution is ranging from Oriental region through Palearctic region and Nearctic region to Neotropical region. The origin of this species group is still unknown, perhaps distributed from some-

where on Micronesian islands of Pacific ocean.

Key to the *polychaeta* species group

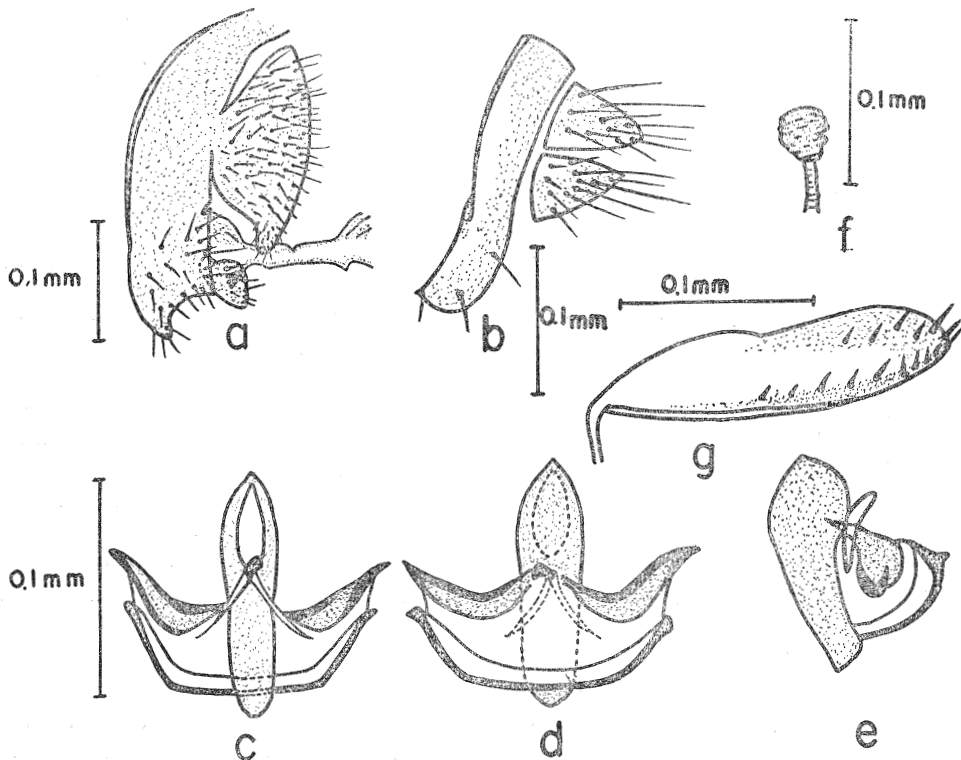
1. Acrostichal hairs in 6 rows .....  
..... *grandis* Kikkawa & Peng, 1938
2. Acrostichal hairs in 8 rows irregularly...2
2. 4V index below 2.0 *illota* Williston, 1896
- 4V index above 2.0 .....3
3. Pale yellow species, clasper of male  
with 5-6 teeth in a row .....  
..... *polychaeta* Patterson & Wheeler, 1942
- Blackish brown species, clasper of male  
with 4 teeth in a row.....*asper*, n. sp.

DESCRIPTION

*Drosophila* (*Drosophila*) *asper*, sp. nov.  
♂, ♀. Antennae wide apart, second  
segment dark brownish black with two

setae quite long; third segment black, pollinosity. Arista branches 4 above and 3 below in addition to a terminal fork, microchaetae bearing on inner side of main axis. Front blackish dark brown, quadrated, width a little longer than its middle length. Frontal hairs present. Periorbits blackish dark brown, anteriorly broadened, rather wide, reach anterior 3/4 of front. Orbitals, anterior proclinate (*orb-3*) situated at the same level of anterior reclinate (*orb-2*) and nearer to the eye, anterior reclinate 2/3 length of proclinate and 1/3 length of posterior reclinate (*orb-1*), posterior reclinate nearer to proclinate than to inner vertical bristle. Oral one prominent, vibrissae with

several long hairs succeeding to the oral. Carina blackish dark brown, broad and widely carinated, with fine hairs, reach anterior 3/4 of face. Face blackish dark brown, middle length a little longer than its width. Clypeus dark brown. Palpus vermiform, tip broadened, blackish dark brown, with two long and several hairs on its middle anteriorly. Proboscis dark brown, protruded. Labrum black. Ocellar triangle blackish dark brown, rather wide, several fine hairs on inner side of ocellar triangle. Ocelli light orange. Ocellar bristles normal, divergent. Eyes dark red, with thick black piles. Cheek dark brown, very wide, about 2/5 of eye greatest diameter. Postvertical bristles quite long and strong, converged.



Figures: *Drosophila asper* n. sp. a, Male peripheral organ. b, Female peripheral organ. c-e, Male copulatory apparatus (dorsal, ventral and lateral aspects). f, Spermatheca. g, Egg guide.

Mesonotum blackish dark brown uniformly. Scutellum blackish dark brown, a little velvet. Acrostichal hairs in 8 rows irregularly, posterior part of them quite rough. Dorsocentral bristles 3 pairs, all postsutural, anterior pair 2/3 length of posterior two. No prescutellar bristles. Pleurae blackish dark brown. Humeral bristles 2, upper one a little longer than lower one. Sternopleural bristles 2, all strong. Sterno-index about 0.85. Anterior scutellar bristles convergent, length equal to posterior pair. Posterior pair crossed. Halteres dark brown entirely.

Legs dark brown. Fore last two segments of tarsi black. Apical bristles on fore and middle tibiae. Preapical bristles on all three tibiae. Inner side of fore and hind metatarsi with two rows of bristly hairs. Middle leg, each tarsi with two stout bristles on inner side apically.

Abdominal tergites black with thin yellowish band on each segment caudally. Sternites dark pale brown.

Male periphallid organ looks like *Drosophila polychaeta* Patterson & Wheeler, but with 4 stout teeth instead of 5 to 6 (1). Male copulatory apparatus: aedeagus tube-like and fused together, ventral fragma narrow, no submedial spines, anterior parameres thin, posterior parameres separated and thick, phallosomal index hardly to judge, phallic formula=aBCdef<sub>0</sub>GHI Kl<sub>0</sub>Mn (l<sub>0</sub> shows tube-like). Female: egg guide with 12 marginal teeth and 4 teeth on submedial, ithum thin; spermatheca weakly chitinized and not telescoped.

Wings grayish diffused. Veins blackish dark brown. Costa reaches apical 4th vein. Fourth vein curved. Anal vein rudiment. Base of costa blackish. C-1 bristles 2, long, lower one longer than upper one. C-3 fringe on its basal 9/10, almost entirely. Costal index about 2.15. 4V index about 2.30. 5x index about 1.00. 4c index about 1.30. Ac index about 2.60.

Body length: 3.20mm (♂), 3.50mm (♀) (live specimens). Wing length: 3.00mm (♂), 3.00mm (♀).

Chromosomes: brain metaphase chromosomes: 1V+2J+2R+1D, salivary chromosomes: 7A+1D.

Eggs: 4 filaments, anterior pair thin, 5/6 length of posterior pair, posterior pair coarse and long.

Puparia: color, light brown; horn index about 17; branches of anterior spiracles 12, short.

Life cycle: one generation takes about 10 days at temperature 24±1 C or 11-12 days at temperature 22±1 C in RH 85-90%.

Stock nos. in Academia Sinica: 0078.1 to .4 (4 stocks, iso-female lines).

Holotype: ♂, Fong-lin, Hwalien; 12 VII 1971 (Lin), collected from a piece of watermelon skin floating on water surface (deposits in Academia Sinica).

Allotype: ♀, Fong-lin, Hwalien; 12 VII 1971 (Lin), collected together with holotype (deposits in Academia Sinica).

Paratypes: 5 ♂♂ and 5 ♀♀, collected together with holotype (deposit in Academia Sinica).

Other specimens examined: 15 ♂♂ and 9 ♀♀, Fong-lin, Hwalien; 12 VII 1971 (Lin); 3 ♂♂ and 3 ♀♀, Tai-ping, Taitung; 8 VII 1971 (Lin).

*Acknowledgements are made to the partial financial supports through Biological Center, Academia Sinica and through National Science Council, Republic of China to senior author.*

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