

On a New Species, "*Drosophila clarofinis*" sp. nov.

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초파리 一新種에 對하여

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摘 要

우리말 이름: 쌍줄무늬초파리(新稱)

1956年 9월부터 1959年 11월까지에 國內各地에서 野生초파리를 採集하여 整理한 結果는 3新種 1未記錄種을 包含한 8屬 57種 45,650個體이다.

그 中 "*Drosophila*" 屬 "*Sophophora*" 亞屬에 屬하는 一新種으로 認定되는 68個體를 1958年과 1959年에 公州, 大川, 茂朱, 雪岳山等地에서 採集하였다. 本種은 "*Drosophila nipponica*" KIKKAWA & PENG에 비슷하나 다음과 같은 特徵을 가진으로서 明確한 差異點을 가진다. 體色은 黃色, 體長은 約 1.8mm 胸背板에 不規則한 4-6列의 背毛列數를 가진다. 腹部背板의 검은 橫帶는 中間에서 넓게 끊겨져 있는데 ♂은 2-5腹背板兩側에 ♀은 2-6腹背板 兩側에 검은 무늬를 가진다. 그리고 外部生殖器의 把握器에는 約 10個의 強直한 검은 剛毛가 邊緣部 거리의 約 1/2을 占하고 있다. 卵은 若干 짧은 두 개의 突起를 가진다.

During recent years a considerable amount of attention has been given by the *Drosophila* geneticists to field observations of "*Drosophila*."

The author continued the collection of drosophilids during a period ranging from September 1956 till November 1959 in South Korea, resulting in the capture of a total of 45650 (57 species, 8 genera) drosophilid flies involving the following four unrecorded, new species: "*Lissocephala*" sp., "*Mycodrosophila japonica*" OKADA, "*Drosophila*" sp. allied to "*D. busckii*," and a species of "*melanogaster*" group. Among these, there were found 68 specimens of the genus "*Drosophila*" which have not yet been described; they closely resemble, but clearly differ from, "*Drosophila nipponica*" KIKKAWA & PENG. The description of the characters is given below.

Here, the author wishes to offer thanks cordially to professor Sajiro Makino, Hokkaido University, for his kind leadership, and to Dr. Haruo Takada, Otaru Fisheries High School, for his kind help and valuable suggestions. Further thanks are due to Dr. M. R. Wheeler, University of Texas, for his valuable advice.

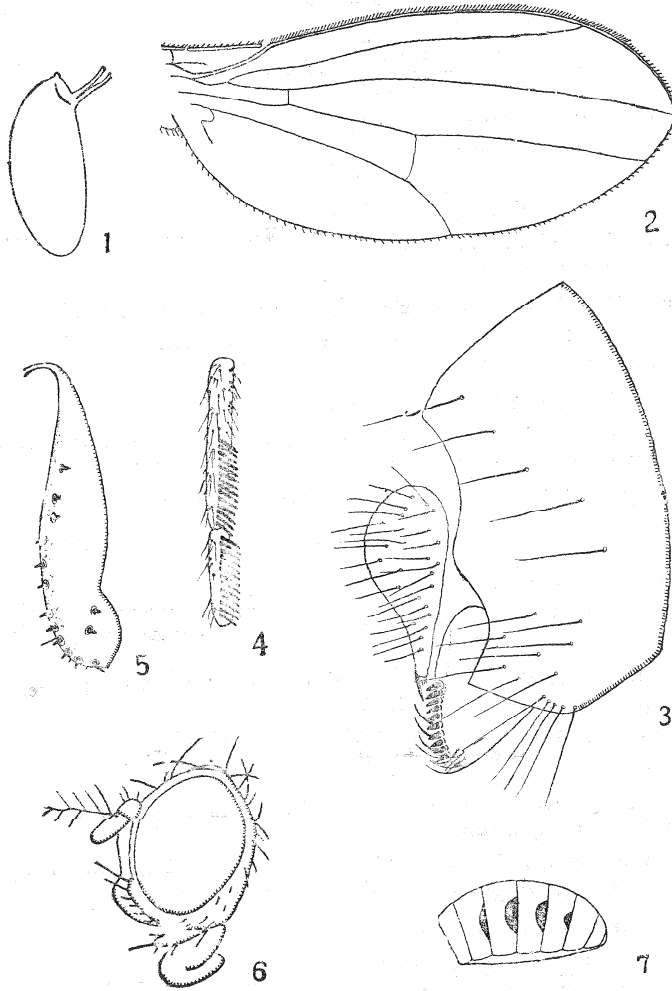
✓ "*Drosophila (Sophophora) clarofinis*" sp. nov. Figs. 1-7.

Korean Name SSangjul-muni-chopari

♂ and ♀: Body yellow, about 1.8mm in length. Head (Fig. 6): Eyes red, with rough piles. Antenna yellow. Arista with about 8 branches including a small fork. 2 below it. Palpus yellow, narrow, and with a few prominent bristles. Ocellar triangle and periorbits yellow. Front yellow, about half as broad as head width Clypeus yellow. Cheeks yellow, about 1/4 as broad as the greatest diameter of eyes. Carina broad and flat. Second orbital minute, about 1/5 size of the first. Second oral about 2/3 size of

vibrissa. Occiput yellowish brown. Vertex yellow.

Mesonotum and scutellum yellow. Thoracic pleura yellow. Humeral bristles 2, upper shorter. Acrostichal hairs in 4-6 somewhat irregular rows. No prescutellar bristles. Cross distance of dorsocentral bristles slightly shorter than twice the length distance. Anterior scutellars divergent. Sterno-index about 0.3.



Figs. 1-7. "*Drosophila (sophophora) clarofinis*" sp. nov. 1; Egg. 2; Wing. 3; Peripheral organs (lateral aspect). 4; Proximal two tarsal joints of male fore leg. 5; Egg guide. 6; Head. 7; Male abdomen.

Legs yellow. Preapicals on all three tibiae, apicals on middle. Proximal two joints of fore tarsi of male with combs of about 14 and 13 black teeth respectively (Fig. 4).

Wings (Fig. 2) hyaline, veins yellow; Crossveins clear. Costal-index about 2.5; 4V-index about 1.8; 4C-index about 0.9; 5X-index about 1.6; Cl-bristles 2, subequal in size. 3rd costal section with heavy bristles on its basal $\frac{1}{3}$. Halteres greyish yellow.

Abdominal tergites yellow, with brownish black bands broadly interrupted at middle of tergites(Fig. 7)

External genital apparatus: ♂. Genital arch pale yellow, broad, upper portion with about 5 long hairs, lower portion with about 13 long hairs. Clasper broad, pale yellow, with about 10 black teeth occupying about $\frac{1}{2}$ length of distal margin clasper itself, about 10 upright setae on the inner surface and with about 3 fine hairs on the edge of distal margin. Anal plate pale yellow, separated from genital arch, prolonged at lower anterior tip, and with about 25 hairs as well as a stout greyish yellow process at the lower end (Fig. 3). Aedeagus yellow, bifid. ♀. Egg-guides (Fig. 5). Lobe narrow, pale yellow, marginally yellow, apically rounded, and with about 12 marginal and 2 discal black teeth. Basal isthmus short and narrow.

Holotype: ♂, Kongju, 18 Aug. 1953 (Lee). Deposited at the College of Education, Kongju.

Allotype: ♀, collected together with holotype. Deposited at the College of Education, Kongju.

Paratype: 3 ♂♂ and 2 ♀♀, Kongju, 5 Sept. 1958; 13 ♂♂ and 9 ♀♀, Muju, 15 Sept. 1958; 3 ♂♂ and 2 ♀♀, Daechun 26 Sept. 1958; 1 ♂ and 1 ♀, Kongju, 29 June 1959; 1 ♂, Mt. Sul-Ak, 18 July 1959; 14 ♂♂ and 11 ♀♀, Muju, 17 Aug. 1959; 4 ♂♂ and 2 ♀♀, Kongju, 10 Sept. 1959.

Distribution: South Korea.

Collecting methods: Net sweeping and attracted fruit-baits.

Relationships: A member of the subgenus "*Sophophora*." Resembles "*D. nipponica*" KIKKAWA & PENG, "*D. magnipunctinata*" OKADA and *D. fenestrarum*" FALLEN.

Remarks: Eggs 2 filaments (Fig. 1), but failed to breed on a culture-medium in the laboratory.

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개구리 網膜體와 水晶體의 Amino 酸 成分에 關한 研究

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Studies on the Composition of Amino Acid
in Retina and Lens Body of the Frogs

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SUMMARY

The retinae and the lens bodies of the frogs were hydrolyzed with 20% hydrochloric acid, and their amino acids were separated by paper chromatography. As a result of it the followings were confirmed:

(1) The retinae and the lens bodies were the same in composition, and aspartic acid, glutamic acid, serine, tyrosine, glycine, lysine arginine, threonine, alanine, histidine, proline, methionine, valine, phenylalanine, leucine, and two unknown substances were separated.

(2) The free amino acids in the retinae were extracted with 80% ethyl alcohol and then separated by paper chromatography. Though their separation was not so definite, serine, glutamic acid, and glycine were always separated regardless of the amount of the sample. When the amount of the sample was enough, β -alanine, γ -amino butyric acid and methionine+valine were also separated.

I 緒 論

動物 眼球의 網膜體와 水晶體는 주로 蛋白質으로 되어 있는데 水晶體 成分에 關하여서는 Uyama¹ 등의 研究와 bovine lens protein의 amino酸을 paper chromatography에 의한 研究² 등이 있다. 그러나 網膜體에 關하여서는 그 視覺을 感覺케 하는 物質이 內包되어 있는 視細胞의 形態學의 研究^{3, 4, 5}가 많으며 그 amino酸 成分에 關하여서는 著者⁶가 가물치(*Ophcephalus argus*(CANTOR)의 網膜과 水晶體의 amino酸 成分을 報告한 것이 있다.

amino酸의 分析에 paper chromatography를 發展시킨 것으로는 맨 처음이 Michael Tswett⁷의 研究였고 그후 現代의 發展을 갖어오게 한 여러 業績들이^{8, 9, 10, 11, 12, 13} 있다. 그런데 著者는 眼球의 水晶體와 網膜의 amino酸 成分이 動物種類에 따라 差異가 있는 것인지, 또 그 組織中의 amino酸과 遊離 amino酸의 成分을 比較하기 爲하여 實驗을 繼續하여 오는 중인데 網膜體內의 遊離 amino酸은 특히 視覺과 關係가 깊은 網膜內의 光作用과 關聯이 있으므로 깊은 關心을 갖이고 있는 바이다. 이번 참개구리의 水晶體와 網膜體

의 amino酸 成分을 paper chromatography에 의하여 分離한 結果를 報告하고자 한다.

II 實驗方法

1) 加水分解

참개구리(*Rana nigromaculata*, 25-50 g.) 20個體를 普通 室內에 두었다가 斷頭하여 눈 40個를 뽑아서 眼球의 赤道部를 銳利한 가위로 切斷하여 前半部에서는 水晶體를, 後半部에서는 網膜體를 各各 分離하여 網膜體와 水晶體를 各各 다른 round bottom flask에 넣고 20%鹽酸 15cc 씩을 넣어 flask에 逆流冷却器를 各各 붙여서 oil bath위에서 110~125°C 로 約 24時間 加熱하여 protein을 分解 시켰다. 이 加水分解物을 濾過하고 그 濾液中의 鹽酸을 蒸發시키기 爲하여 water bath 위에서 加熱 濃縮시켰는데 그때 液이 濃縮되면 다시 10cc의 蒸溜水를 加하고 또다시 蒸發시키고 하여 7回 반복하여서 鹽酸을 全部 蒸發시킨 다음 그 液에 10% isopropyl alcohol을 網膜體 分解物에는 3cc, 水晶體 分解物에는 5cc를 各各 加하여 液이 黃色이 되는 程度로 하여서 paper chromatography의 sample로 하였다.