

## Three New Species of Diplommatinidae (Prosobranchia) from Central Taiwan

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Three species of family Diplommatinidae was collected from the mountainous region of central Taiwan. One belongs to genus *Gastroptychia*, the other two belong to genus *Diplommatina*. After carefully compared with the shell morpho-characters of the allied species, we believe that they should be new species and name as *Gastroptychia gabata*, *Diplommatina pseudotayalis* and *Diplommatina ungwangorum*. *Gastroptychia gabata* is the first report of genus *Gastroptychia* in Taiwan.

**Key words:** Diplommatinidae, *Gastroptychia*, *Diplommatina*, n. sp., Taiwan.

### Materials and Methods

Several specimens of diplommatinid snails from the mountainous region of central Taiwan were measured based on the following morphometric items: shell length (SL), shell width (SW), apertural length (APL) and apertural width (APW).

### Genus *Gastroptychia* Kobelt et Möllendorff, 1900

#### *Gastroptychia gabata* n. sp. (Fig. 1)

**Shell:** Orange color, thin, sinistral winding, dorsal-ventral flat, whorls 7-7.5 in number, first 4 whorls conical shape and become tube shape in last two whorls, protoconch smooth 1.5 whorls, teleoconch ornamented with closely set riblets at slightly irregular interval, last 1/2 penultimate to body whorl ornamented looser set riblets at regular interval, the space is 2-4 times wider than the upper whorls. Constriction situated at columellar side, weakly arcuated toward the columellar side, vertically and extend till suture. Palatal plica lacks. Callous distinct but not

well extended. Aperture quadrangle, peristome thin, columellar lip vertical, angulate at the junction with basal lip. Small triangular columellar tooth is visible at 2/3 part of columellar.

### Measurement and type depository

Holotype: SL: 4.15mm, SW: 1.85mm; APL: 1.35mm, APW: 1.30mm; NMNS00-4320001, National Museum of Natural Science, Taiwan.

Paratype 1: SL: 4.05mm, SW: 1.85mm; APL: 1.4mm, APW: 1.35mm; NMNS00-4320002, National Museum of Natural Science, Taiwan.

Paratype 2: SL: 4.00mm, SW: 1.80mm; APL: 1.40mm, APW: 1.40mm; MHNG 35649, Museum d'histoire naturelle, Geneva, Switzerland.

### Etymology

The species is named as plate (gabata) for dorsal-ventral flat shell shape.

### Type locality

Shinshe (新社鄉) in Taichung County, central Taiwan, 500 meters in Altitude, gathered from grass slope under leaves.

### Genus *Diplommatina* Benson, 1849

#### Subgenus *Sinica* Moellendorff, 1885

#### *Diplommatina* (*Sinica*) *pseudotayalis* n. sp. (Fig. 2)

**Shell:** Yellow color, thin, dextral winding, whorls 8 in number, first 4 whorls conical shape and become tube shape in last two whorls, protoconch smooth 1.5-2 whorls, teleoconch ornamented with rather closely set riblets at regular interval from first to last whorl. Constriction situated at columellar side, weakly arcuated toward the columellar side, oblique from the top of columella via middle callous and extend till suture. Palatal plica long, situated above parietal callous area and connected to the constriction. Palatal plica is much longer than constriction. Callous distinct well extended to the site, very near suture. aperture vertical, pentagonal, peristome thick, columellar lip subvertical, angulate at the junction with basal lip. Triangular columellar tooth is visible at middle columella.

**Measurement and type depository**

Holotype: SL: 4.40mm, SW: 2.05mm; APL: 1.40mm, APW: 1.55mm; NMNS00-4321001, National Museum of Natural Science, Taiwan.

Paratype: SL: 4.30mm, SW: 1.90mm; APL: 1.50mm, APW: 1.40mm; MHNG 35-650, Museum d'histoire naturelle, Geneva, Switzerland.

**Etymology**

The species is named as *pseudotayalis* for the high similarity between the present new species and *D. tayalis*.

**Type locality**

Shongkang (松崗) in Nantou County, central Taiwan, 2000 meters in Altitude, gathered from grass slope under leaves.

***Diplommatina (Sinica) tungwangorum* n. sp. (Fig. 3)**

**Shell:** Orange color when fresh, afterward become yellow color. Shell thin, dextral winding, pupoid shape, whorls 8 in number, first 3 whorls conical shape and become tube shape in last 3 whorls, protoconch smooth 1.5 whorls, teleoconch ornamented with loosely set riblets at regular interval on first 3-3.5 whorls, penultimate to body whorl ornamented more closely set riblets, the space is 1/2 width of the former. Riblets are very condensed just above outer lip. Constriction situated at columellar side, weakly arcuated toward the columellar side, oblique from the top of columellar via middle callous and extend till suture. Palatal plic-a long, situated above parietal callous and connected to the constriction. Palatal plica and constriction are equal in length. Callous distinct well extended to the site, very near suture. Aperture, round, peristome thick, columellar lip oblique, angulate at the junction with basal lip. Strong triangular columellar tooth is visible at middle columellar.

**Measurement and type depository**

Holotype: SL: 3.65mm, SW: 1.80mm; APL: 1.35mm, APW: 1.25mm; NMNS00-4322001, National Museum of Natural Science, Taiwan.

Paratype: SL: 3.50mm, SW: 1.80mm; APL: 1.35mm, APW: 1.35mm; MHNG 35-

651, Museum d'histoire naturelle, Geneva, Switzerland.

### Etymology

This species, *tungwangorum* was found by and dedicated to Mr. Tung, Chen-lung and Ms. wang, chih-hui and named after them.

### Type locality

Bashian mountain (八仙山) in Taichung County, central Taiwan, 1100 meters in Altitude, gathered from grass slope under leaves.

### Discussion

Base on general shape of *G. gabata* (Fig. 1 A, B, C) is very similar to *G. laurentiana* (Möllendorff, 1885) distributed in Patung, Hupei (湖北, 巴東山), but *G. gabata* has closer riblets at upper whorls than penultimate and body whorls, in *G. laurentiana*, riblets at equal vertical from first to last whorls.

*D. pseudotayalis* n. sp. is very similar to *D. tayalis* Kuroda, 1941 uncommon in high mountain of Taiwan, due to its very long palatal plica and pentagonal aperture, but constriction of former situated at columellar right side, unlike *D. tayalis* situated at penultimate whorl just behind the outer lip. Besides, the interval between riblets in *D. pseudotayalis* is closer than *D. tayalis* and the *D. pseudotayalis* is smaller than *D. tayalis*. *D. pseudotayalis* also very similar to *D. collarifera* Schmacker & Boettger, 1890 in general shell shape, but the former with closer riblets and columellar lip angulate at the junction with basal lip. It also similar to *D. kobelti* Pilsbry, 1901 distributed in Japan and east China, due to dense riblets. But palatal plica of the present new species is much longer.

*D. tungwangorum* is similar to *D. septentrionalis* Pilsbry, 1901 from Hokkaido and *D. dormitor* Pilsbry, 1902 from Kikaigashima, due to pupoid shape, but the later two are smaller and the riblets pattern are different.

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## Reference

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## 中台灣產三種新種芝麻蝸牛

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2001年夏天在中台灣採得三種芝麻蝸牛，經與其他芝麻蝸牛科種類比對之後，發現不盡相同，擬定為新種。台灣過去並無隸屬於扁芝麻蝸牛屬 (*Gastroptychia*) 的種類，左旋扁芝麻蝸牛是台灣第一筆扁芝麻蝸牛屬的紀錄。三種新芝麻蝸牛扼要描述如下：

左旋扁芝麻蝸牛(新種) *Gastroptychia gabata* n. sp.

殼左旋，橘紅色，背腹壓扁，前四螺層成錐形，縱肋相當密緻，至次體層後縱肋漸鬆散，無腔襞，殼口略成方形，軸齒位於軸唇2/3處。殼高約4mm。

似高山芝麻蝸牛(新種) *Diplommatina (Sinica) pseudotayalis* n. sp.

殼右旋，淺黃色，前四螺層成錐形，最末二層成筒狀，縱肋相當密緻，所有縱肋間距等寬，腔襞遠較緊線更長，殼口略成圓形，軸齒十分發達位於軸唇1/2處。殼高約5mm。

董王芝麻蝸牛(新種) *Diplommatina (Sinica) tungwangorum* n. sp.

殼右旋，橘紅色，上位螺層成圓錐形，最末三層成筒狀，上位螺層縱肋較疏鬆，至次體層後縱肋較密緻，腔襞與緊線約略等長，殼口略成圓形，軸齒十分發達位於軸唇1/2處。殼高約4mm。

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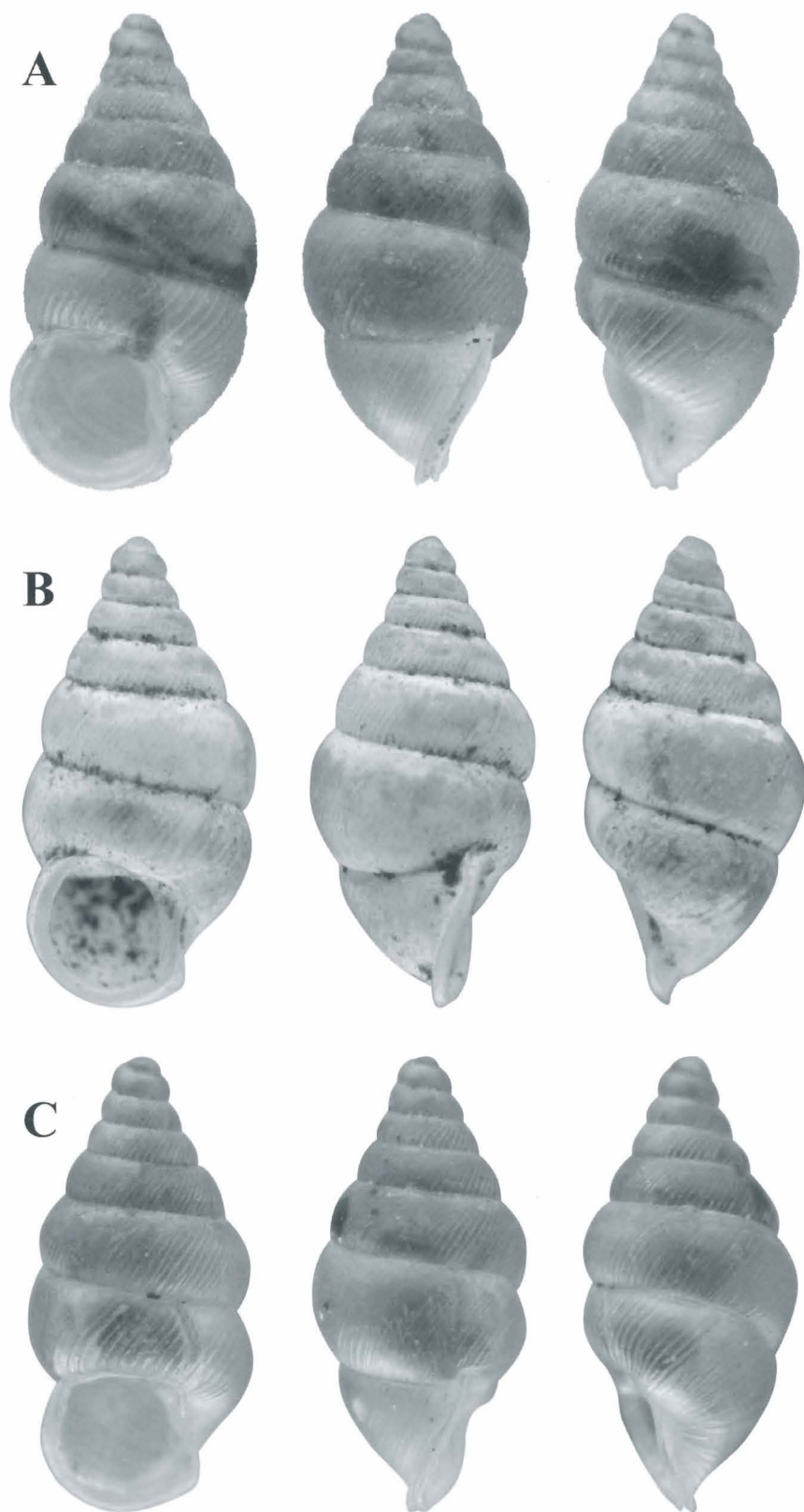


Fig. *Gastroptychia gabata* n. sp. (A) Holotype; (B) Paratype 1; (C) Paratype

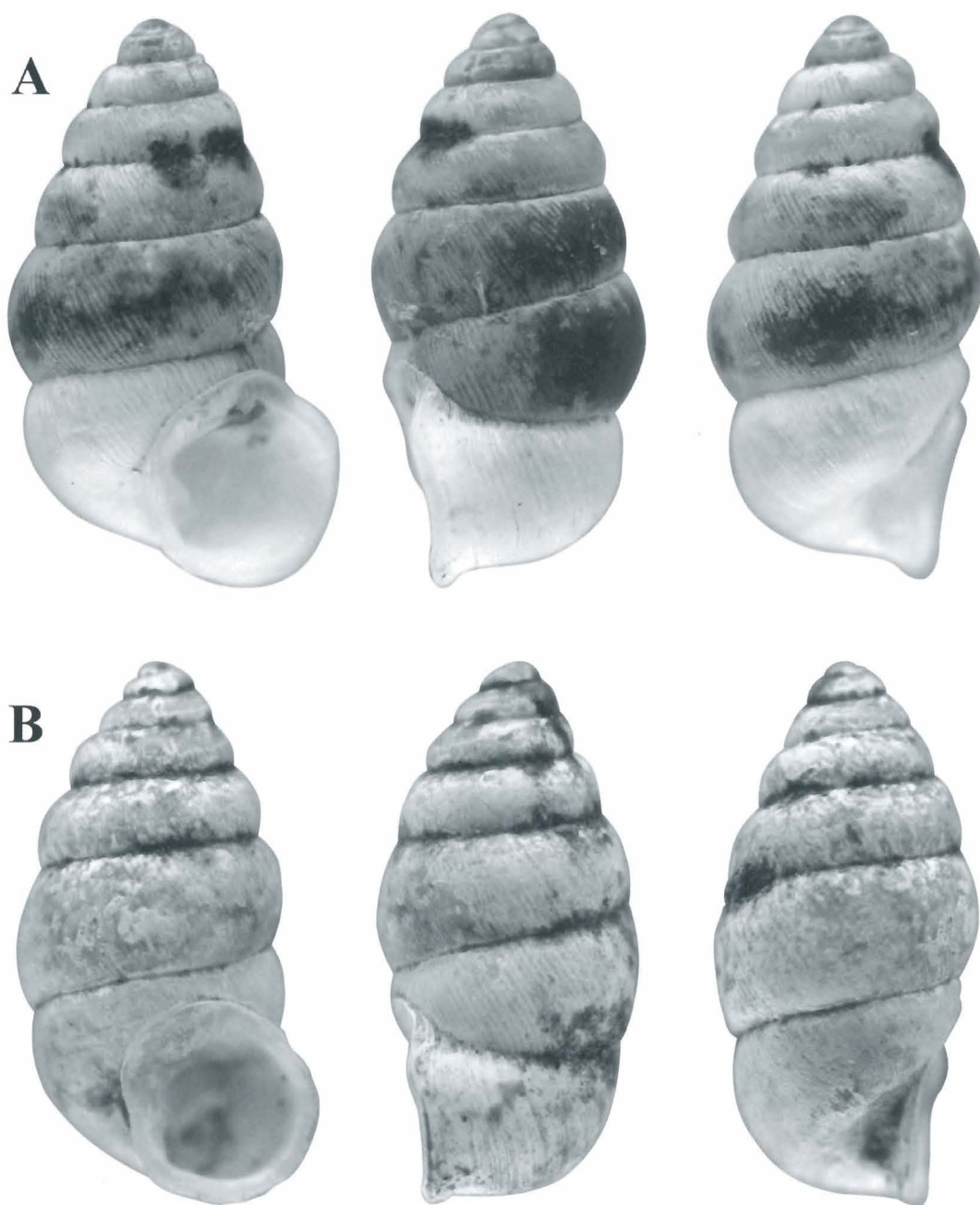
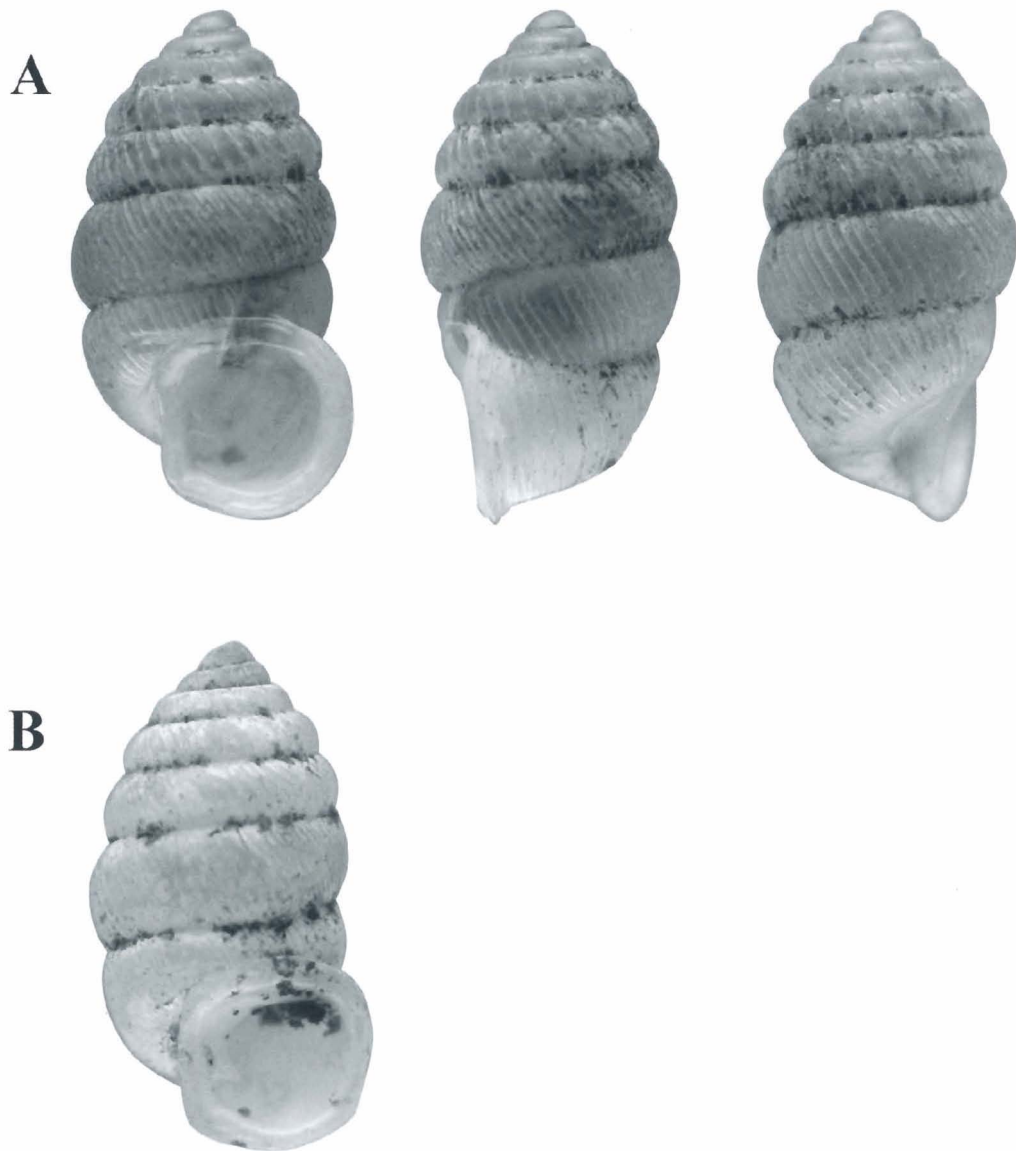


Fig. 2 *Diplommatina (Sinica) pseudotayalis* n. sp. (A) Holotype; (B) Paratype.



*Diplommatina (Sinica*

*wangorum*

(A) Holotype; Paratype.