

Tamdaspis Lisogor. 的分类位置、异名及新种

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1982年夏,笔者在检查湘西凤凰山江千公坪剖面时,采获一批晚寒武世三叶虫化石,其中包括本文记述的新种 *Tamdaspis brevilimbus* sp. nov.

Tamdaspis 最初见于苏联哈萨克,为 Лисогор (1977) 所建。其后相继在我国新疆(张太荣, 1981) 和安徽(仇洪安等, 1983) 发现。最近在哈萨克又找到一些新材料(Apollonov *et al.*, 1984)。安徽的材料,经钱义元、仇洪安鉴定,认为是一新属,命名为 *Psiloyuepingia* Qian et Qiu, 1983。

Tamdaspis 是一个比较特征的刺尾虫类(ceratopygids)三叶虫(尽管尾部缺乏侧刺)。它的眼叶大而强壮,靠近头鞍;头鞍具中瘤,基部通常有一对边叶(bacculae);面线前支强烈扩张,在轴线部位会合形成尖的头盖前缘;内边缘后部、头鞍前叶两侧有一对三角形凸起,外边缘向下弯曲。它的尾部肋区也很特征,具有宽深的间肋沟,第2—3肋节前肋带极窄,后肋节则相当宽。我国安徽的材料(*Psiloyuepingia* Qian et Qiu, 1983)在许多重要特征上,包括头鞍中瘤及边叶的发育情况,眼叶和前边缘的形态,面线的过程以及尾部中轴和肋区的形态等,均与 *Tamdaspis* 一致。很显然, *Psiloyuepingia* 应是 *Tamdaspis* 的晚出异名。

Tamdaspis 的头部形态,与某些刺尾虫类如 *Proceratopyge*, *Onychopyge* 较为相近;尾部及面线特征则与澳大利亚所产的 *Cermetops* Shergold, 1980 十分类似。它与 ceratopygids 的关系,还可以通过 *Wannania* Qiu(仇洪安等, 1983, 218 页)直接联系起来。这两个属除头部特征有相似之处外,更重要的是它们的尾部形态几乎完全相同,尤其是 *Wannania* 的模式种 *W. latilimbata* 的尾部(仇洪安等, 1983, 图版 73, 图 4),所不同的只是 *Wannania* 有一对自第一肋节后伸的侧刺。

Лисогор 在建立 *Tamdaspis* 属时,曾将其放在 Ceratopygidae 科的 Iwanyaspidinae 亚科之内;仇洪安等也认识到 *Psiloyuepingia* 与 *Pseudoyuepingia* (*Iwanyaspis* 的早出异名)有相似之处,将两者一并置入 Ashaphidae 科中。唯张太荣将其置入 Marjumiidae 科,似乎不妥。从 *Tamdaspis* 与 ceratopygids 的关系来看,笔者认为,Лисогор 的意见较为正确。但是,近年来国际上普遍认识到 *Macropyge* 一类的三叶虫(包括 *Macropyge*, *Promacropyge* 及其异名 *Aksapyge* 等属)应属刺尾虫类(Owens *et al.*, 1982, p. 14; Shergold and Sdzuy, 1984, p. 94; Fortey and Chatterton, 1988, p. 196),笔者目前也持这种观点。如果这种看法是正确的话,那么那些类似于 *Macropyge* 的不具侧尾刺、以往归入 Iwanyaspidinae 的刺尾虫类,均应归到 Macropyginae 亚科之中,因为这两个亚科的概念相同,而后者建立在先。据

此,笔者把 *Tamdaspis* 归到 Macropyginae 亚科内。有关这一问题,笔者还将在另文中讨论。

Tamdaspis 有一定范围的地理分布,已知种均限于上寒武统中上部,有可能是这段地层的特征分子,因此似有一定的地层意义。

新 种 描 述

刺尾虫科 Family Ceratopygidae Linnarsson, 1869

大尾虫亚科 Subfamily Macropyginae Kobayashi, 1937 [=Iwanyaspinae
Kobayashi, 1963]

达姆得盾壳虫属 Genus *Tamdaspis* Lisogor, 1977 [=Psiloyuepingia
Qian et Qiu, 1983]

短缘达姆得盾壳虫(新种) *Tamdaspis brevilimbus* sp. nov.

(图版 1, 图 1—13; 插图 1)

特征 头鞍前后宽度近相等,背沟弯曲。眼叶宽度大于头鞍宽度之半。面线前支向前强烈扩张。前边缘纵向宽度仅为头鞍长度的 1/4。活动颊侧边缘沟极宽深,具颊刺。尾部具密集而明显的纹线。

描述 头盖前缘尖,前侧角圆润。头鞍柱形,适度凸起,宽度约为长度的 1/2,在眼叶之前略扩张,前端宽圆;具 3—4 对头鞍沟;颈前沟分叉,前支深,前伸;后支浅,平伸;第二对位于头鞍近中部,浅凹陷状,不与背浅相连;第三对短,前斜;第四对极短,位于眼叶前端稍靠前,均与背沟相连。边叶极小。中瘤明显,泪珠状,位于颈前沟后支之间。颈沟深,中部后凹;颈环纵向窄而平、近等宽。眼叶大,半圆形,宽度约为头鞍宽的 2/3;眼沟明显;眼区外侧向下倾斜。前边缘极窄,仅为头鞍长的 1/4,内边缘下凹,后部具一对三角形凸起;外边缘狭窄,三角形,向下弯曲;无边缘沟,内外边缘仅由坡度变化而区别。面线前支约呈 110° 向前扩张,越过内边缘后迅速内转、呈缓 S 形在轴线部位相交。据活动颊可推测后支为短弧形,向后外斜伸;后侧翼小,长三角形。

活动颊三角形,边缘窄而凸起,侧边缘沟极宽且凹陷,后边缘沟亦较深;颊部凸起呈三角形,前部与内边缘上的凸起汇合;侧、后边缘在颊角相连后继续向后侧延伸形成颊刺。

口板亚圆形,中心体前叶圆而凸起;唇瓣斑深陷,其后各有一横长的小凸起;后叶新月形,中度凸起。前翼小,三角形。侧边缘宽,向前变窄;后缘中部微前凹。边缘和中心体上具同心状纹饰。

尾部横椭圆形,长宽比约为 2:1,前侧角圆润。中轴约占尾长的 2/3,强烈凸起,分 5 节及一末节,轴后脊低凸,伸达边缘;肋部微凸,分 5 节:第一肋节强壮;第二肋节具线脊状的前肋带和宽的后肋带;其余肋节不具肋带,为宽深的肋沟所限。所有肋节均与边缘汇合;边缘沟模糊,边缘较窄,微凸起。壳面具有密集的同心状纹线。腹边缘极宽平,与轴后脊相对的部位呈锥状凸起;内缘宽 V 形。表面具细而密集的脊线,与内缘平行。

讨论 *Tamdaspis* 建立虽晚,但目前描述的种已有 10 个之多,包括 *Tamdaspis tamdensis* Lisogor, 1977 (模式种); *T. crassocostatus* Lisogor, 1977; *T. sp. sensu* Lisogor, 1977; *T. conica* Zhang, 1981; *T. cylindrica* (Qian et Qiu), 1983; *T. toxus* (Qian et Qiu), 1983; *T. intermedia* (Qian et Qiu), 1983; *T. obsoleta* (Qiu), 1983; *T. parva* (Qiu), 1983; *T.*

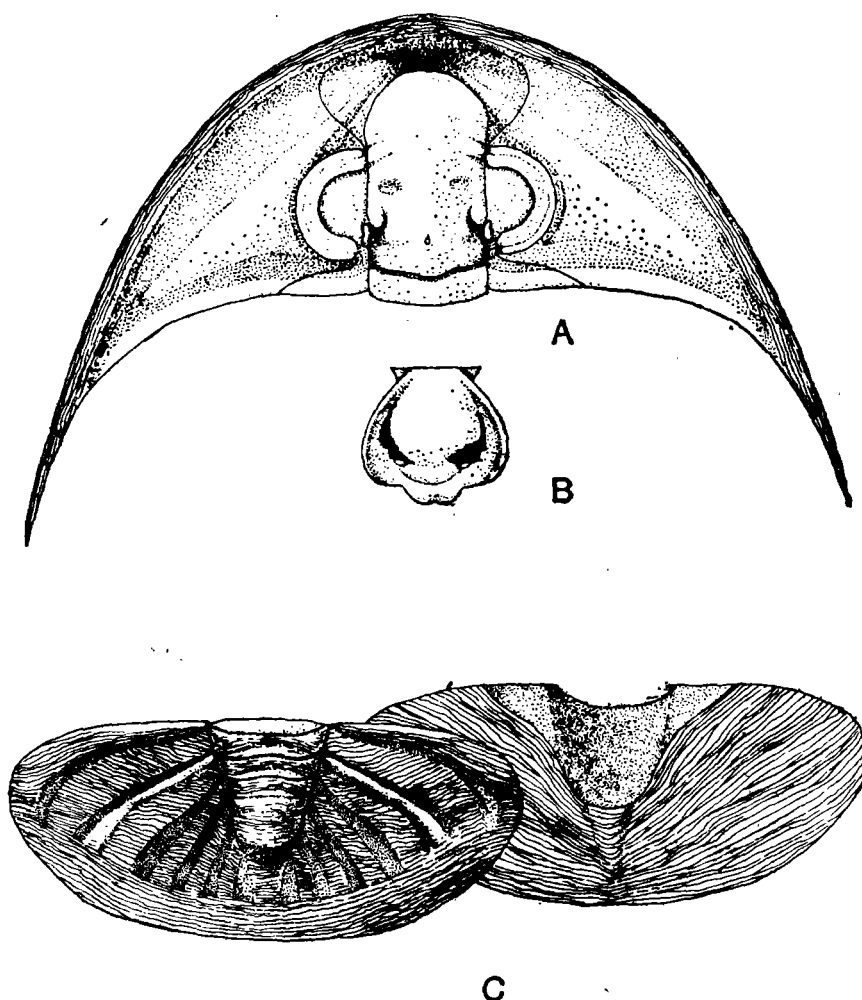


插图 1 *Tamdaspis brevilimbus* sp. nov. 复原图

a. 头部, b. 唇瓣, c. 尾部(背视及腹视)。

Reconstruction of *Tamdaspis brevilimbus* sp. nov.

a. cephalon, b. hypostoma and c. pygidium (dorsal and ventral views).

sp. sensu Apollonov *et al.*, 1984。其中, *T. cylindrica*, *T. toxeus*, *T. intermedia* 及 *T. sp.* sensu Apollonov *et al.* 4 个种很可能同种。模式种的某些副模标本也可能与正模标本不是同一种。这些问题,限于篇幅,本文不作深入讨论。当前标本的头盖前边缘极窄,据此可与目前所有以头盖为模式而建立的种相区别。此外当前标本的眼叶相对大而宽(横向),亦与除 *T. obsoleta* 以外的其它种不相同,新种与后者的区别是鞍沟和边叶较发育,颈沟弯曲。在以尾部为模式建立的两个种(*T. crassocostatus*, *T. conica*)中,以后者的形态与当前标本较相近,但它的中轴较为狭长,第 2、3 肋节均具肋沟,纹线装饰较不发育。

产地层位 湖南凤凰山江干公坪,上寒武统沈家湾组中上部。

主要参考文献

仇洪安等, 1983: 三叶虫纲。华东地区古生物图册(一), 早古生代分册。地质出版社。

- 张太荣, 1981: 三叶虫纲。西北地区古生物图册新疆分册(一)。地质出版社。
- Apollonov, M. K., M. N. Chugaeva, and S. V. Dubinina, 1984: Trilobite and Conodonts from the Batyrbay section in Malyi Karatau Range. "Nauka" Kazakh SSR Publishing House. Alma-Ata.
- Fortey, R. A. and D. E. Chatterton, 1988: Classification of the trilobite suborder Asaphina. *Palaeontology*, 31(1): 165—222.
- Owens, R. M., R. A. Fortey, J. W. Cope *et al.*, 1982: Tremadoc faunas from the Carmarthen district, South Wales. *Geol. Mag.*, 119(1): 1—38.
- Shergold, J. H., 1980: Late Cambrian trilobites from the Chatsworth Limestone, western Queensland. *Bull. Bur. Miner. Resour. Geol. Geophys. Aust.*, 186: 1—111.
- Shergold, J. H. and K. Szalay, 1984: Cambrian and early Ordovician trilobites from Sultan Dag, central Turkey. *Senckenbergiana lethaea*, 65: 1—3, 51—135.
- Лисогор К. А., 1977: Биостратиграфия и трилобиты верхнего кембрия и тремадока Малого Каратау (Южный Казахстан).— В кн.: Биостратиграфия и фауна верхнего кембрия и пограничных с ним слоев. «Наука», Новосибирск, с. 197—265.

FAMILIAL POSITION, SYNONYM AND NEW SPECIES OF *TAMD-ASPIS* LISOGOR (TRILOBITA, LATE CAMBRIAN)

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Summary

Tamdaspis brevilimbus sp. nov., a new species of *Tamdaspis* Lisogor, 1977, is described and figured from the mid-upper part of the Shenjiawan Formation at Qiangongping, Fenghuang County, western Hunan. The new material proves the first record of *Tamdaspis* in Hunan and adds to the genus the morphology of the librigena, the hypostoma and the pygidial doublure. *Psiloyuepingia* Qian and Qiu, 1983 is considered to be a junior synonym of *Tamdaspis*. The genus is regarded as a ceratopygid and placed in the subfamily Macropyginae that is here referred to the family Ceratopygidae, according to Fortey and Chatterton (1988).

Family Ceratopygidae Linnarsson, 1869

Subfamily Macropyginae Kobayashi, 1937 [=Iwanyaspidinae Kobayashi, 1962]

Genus *Tamdaspis* Lisogor, 1977 [= *Psiloyuepingia* Qian et Qiu, 1983]

Tamdaspis brevilimbus sp. nov.

(Pl. I, figs. 1—13; Text-fig. 1)

Name Derived from Latin—*brevis*, short, and *limbus*, border, referring to the narrow (sag.) preglabellar area.

Holotype Here designated, an incomplete cranidium, NIGP133838 (Pl. I, fig. 3).

Diagnosis A species of *Tamdaspis* with glabella twice as long as wide, defined laterally by

sinuous, subparallel axial furrows; palpebral lobe large, with width (tr.) more than half of that of glabella; preocular sections of facial suture strongly divergent forward; width (sag.) of preglabellar area equal to one-fourth of the length of glabella; librigena with genal spine and very broad lateral border furrow; pygidium with conspicuous and dense lirae.

Description Cranidium with angulate anterior margin. Glabella large, rectangular in outline, moderately convex and slightly expanded outward in front of palpebral lobes, with a width of about $1/2$ length. Three to four pairs of glabellar furrows; preoccipital furrow bifurcated, with the anterior branch deeply incised and anteriorly directed and the posterior one shallow and transverse; 2p gently impressed, isolated from the axial furrow; 3p short and faint, running inward and forward from the axial furrow; 4p very short and scarcely visible, lying slightly in front of the palpebral lobe. Bacculae very small; glabellar node lying sagittally between the posterior branches of the preoccipital furrow. Occipital furrow deep, with median part gently curved rearward. Occipital ring as wide (sag.) as the preoccipital glabellar lobe with an even lateral profile. Palpebral lobe large, semicircular in outline, nearly as wide (tr.) as glabella, well-defined by palpebral furrow. Preglabellar area short (sag.), occupying only $1/4$ of glabellar length (exclusive of occipital ring), with concave preglabellar field and small, forward-dipping anterior border. Posterior part of the preglabellar field with a pair of triangular-shaped, raised areas. Preocular facial sutures divergent forward at an angle of about 110° , turning inward and forward rapidly across the border to meet one another sagittally. Postocular suture short, enclosing the transversely triangular posterolateral limb.

Librigena triangular in outline, with narrow, gently convex lateral border and very broad lateral border furrow. Genal field triangular, markedly convex, with its anterior part united with the convexity in preglabellar field. Lateral and posterior borders merged at genal angle, continuously extending into genal spine.

Hypostoma subcircular, with anterior body rounded and highly convex. Maculae deeply notched, immediately succeeded by a pair of small projections. Posterior body crescentic, gently convex, defined posteriorly by a shallow border furrow. Anterior wing small, triangular. Lateral border very wide (tr.), narrowing forward rapidly; posterior border narrow (sag.), with posterior margin gently sinuate.

Pygidium twice as wide as long or even wider, with rounded anterior lateral corners. Axis highly convex, $2/3$ as long as pygidium, and containing 5 rings, and a terminal piece which continues into a low postaxial ridge. Pleural field gently convex, with 5 segments, of which the last three bearing no pleural furrows and defined by broad and deep interpleural furrows, and the second segment composed of very narrow (exsag.) anterior band and evidently wide posterior band. Border slightly convex, defined by feeble border furrows. Doublure very broad, with V-shaped inner margin, bearing a conical convexity opposite the postaxial ridge on the dorsal surface.

Prosopon visible on the hypostoma and the lateral border of the librigena as fine concentric terrace lines, on the pygidium as heavy, conspicuous, concentric terrace lines, and on the pygidial doublure as heavy, fine terrace lines parallel to the inner margin.

Remarks Ten species have been described since *Tamdaspis* was erected (Lisogor, 1977; Zhang, 1981; Qiu *et al.*, 1983; Apollonov *et al.*, 1984). Among them, 4 species, *T. cylindrica*, *T. toxus*, *T. intermedia* and *T. sp. sensu* Apollonov *et al.*, may be conspecific. The holotype of the type species *T. tamdensis* with a forward-tapering glabella is not conspecific with some paratypes with a parallel-sided glabella (Lisogor, 1977).

The present new species differs from all the species established on cranidia in having a notably narrower (sag.) preglabellar area, and from those except *T. obsoleta* in having larger and wider (tr.) palpebral lobes; however, *T. obsoleta* differs in its poorly developed glabellar furrows and evenly

curved occipital furrow. There are two species established on pygidia, among which the new species is closely comparable in pygidial outline to *T. conica* from eastern Tianshan, Xinjiang (Zhang, 1981) but differs from the latter in lacking the interpleural furrows on the third segment and in bearing denser and stronger terrace lines.

Occurrence Mid-upper part of Shenjiawan Formation (HF6), Upper Cambrian; Qiangongping, Fenghuang, western Hunan.

图 版 说 明

所有标本均保存于中国科学院南京地质古生物研究所。产自湖南凤凰山江千公坪,上寒武统沈家湾组中上部,采集号: HFS₆。

图 版 I

1—13. *Tamdaspis brevilimbus* sp. nov.

1. 头盖, ×7, 登记号: 113836。
- 2a, b. 头盖背视及前侧视, ×5, 登记号: 113837。
- 3a, b. 头盖, holotype, 斜侧视及背视, ×5, 登记号: 113838。
4. 尾部, ×7, 登记号: 113839。
5. 破碎的活动颊, ×3, 登记号: 113840。
6. 不完全活动颊, 橡胶模型, ×8, 登记号: 113841。
7. 不完全唇瓣, ×9, 登记号: 113842。
8. 近于完全的唇瓣, 橡胶模型, ×6, 登记号: 113843。
9. 尾部, ×4, 登记号: 113844。
10. 尾部, 腹视, 显示宽阔的腹边缘, 橡胶模型 ×4, 登记号: 113845。
11. 尾部, 橡胶模型, ×4, 登记号: 113846。
12. 尾部, ×7, 登记号: 113847。
- 13a, b. 尾部及右侧的局部放大, ×4, ×12, 登记号: 113848。

