

A COMMENTARY NOTE ON PROF. LIU'S 1993 AND 1994
CHINESE PUBLICATIONS ON FRESHWATER
PLANARIANS FROM CHINA, WITH CORRECTIONS OF
THE DATE OF ORIGINAL PUBLICATIONS OF FIVE
POLYCELIS SPECIES AND A REPLACEMENT
NAME OF "*POLYCELIS TIBETICA* HYMAN, 1934"

by

MASAHARU KAWAKATSU

I. INTRODUCTION

Recently, Mr. De-zeng LIU, Professor of the Institute of Natural Resources, Heilongjiang Academy of Science, Harbin, People's Republic of China, kindly sent me 2 original copies of his 1993 book (one hard cover copy and another paperback one), a reprint of his 1994 paper and a set of 4 sheets of his preprint of Figures which were published and/or now in the press in some Chinese journals. All these publications were written in Chinese (Peking Chinese by simplified characters used after World War II). Their English titles and the publication data are as follows (English translations enclosed with brackets have been prepared by KAWAKATSU; others are English titles added in the original publications):

- 1) LIU, De-zeng, 1993. Chinese Freshwater Turbellarians. Six prefatory pages without pagination+1-2+1-blank+1-184 pp. National Peking Normal Univ. Press, Peking. Published in December, 1993 (without the date of publication). (In Chinese.) For contents, see the next Section. See Figs. 1 and 2.
- 2) LIU, De-zeng, 1994 a. Notes on two new species of the genus *Polycelis* from Xizang Autonomous Region, China (Tricladida: Paludicola: Planariidae). Acta Zootaxonomica Sinica, 19 (1): 10-15+pl. I. (In Chinese, with English summary.)
- 3) LIU, De-zeng, In press. [Preprint of figures of the following papers]. (Tentative English titles provided by KAWAKATSU.) [Two new species of the genus *Polycelis* from the Xizang Autonomous Region (Tibet), China]. Acta Zootaxonomica Sinica, 19 (1) in 1994 / [Two new species of the genus *Polycelis* from China]. [Limnobiol. Bull.] (Shuisheng Shengwu Xuebao) (In press.) / [Four new species of the genus *Polycelis* from China]. Acta Zootaxonomica Sinica (In press.).

KAWAKATSU offers his heartiest congratulations to Mr. LIU for recent progress of Chinese turbellariology by the foresight of a Chinese researcher. However, it is regrettable that some of his taxonomic descriptions of new planarian species are contrary to the International Code of Zoological

责任编辑 周国正
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中国淡水涡虫

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CHINESE FRESHWATER TURBELLARIANS

刘德增 编著



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Fig. 1. LIU's 1993 Chinese book (185 mm×260 mm). A jacket (top), title page (bottom-right) and the publication data (bottom-left). See the text of the present publication.

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Fig. 2. Contents of the book (35 Chinese articles; reproduced from page 1). The number with a circle added by KAWAKATSU corresponds to each English explanation of articles in the Section II of the present paper.

Nomenclature (3rd ed., 1985). Moreover, there is the possibility the Chinese language may not be translated personally by turbellariologists of western countries, or abstracts published quickly.

The purposes of the present publication are firstly to give an English review of Mr. LIU's 1993 book. And secondly, to provide corrections in the next Section of taxonomic errors found in his book and 1994 article (and preprints).

II. CONTENTS OF THE 1993 BOOK

The publication data are given in the foregoing section (1). Although the month and the year of the publication of the book were given on the last page, but not day. Thus, December 31, 1993, is specified or demonstrated as the date of publication. Cf. ICZN (3rd ed.), Art. 21 (c), (i).

The book consists of the following sections: Title page; Preface by Prof. Yuè-zeng CHÉN (Peking); 4 pages (without pagination) of photographs showing the author (Mr. LIU), some collecting sites of planarians and a party of congratulations at the occasion of the "Presentation of the Results of Taxonomic Studies on Chinese Freshwater Planarians, 1992"; Introduction (pp. 1-2); Contents (another page 1); Chinese translations of 17 articles on Chinese (and Japanese and Korean) turbellarians published by Chinese and foreign researchers (pp. 1-123); Reproductions of 17 Chinese articles by LIU (1988-1994) in short form (pp. 124-180, 183-184); An original note on the "corrected name" of *Polycelis tibetica* HYMAN, 1934 (pp. 181-182).

English translations of "Contents" of the book (authors, original titles, publication journals of original papers, etc.) and KAWAKATSU's short notes for each Chinese article are given below (see Fig. 2). Numbers marked with an asterisk indicate references for which reprints or original copies are not preserved in KAWAKATSU's collection of literature on turbellarians.

1. TU, Tseng-jui, 1934 (Chinese translation on pp.1-12). Original title: Notes on some Turbellarians from the Tsing Hua Campus. Sci. Rep. Nat. Tsing Hua Univ., ser. B, Biol. Psychol. Sci., 1: 191-205+pls. I-III.

Note. This is a complete translation in Chinese from the original English paper; reproduction of 3 plates is added.

2. HYMAN, L. H., 1934 (Chinese translation on pp.13-19). Original title: Report on Triclad Turbellaria from Indian Tibet. Mem. Conn. Acad., 10, Art. II: 5-12+pls. I-II.

Note. This is a complete translation in Chinese from the original English paper; reproduction of 3 plates is added.

3. OKUGAWA, K. I., 1939 (Chinese translation on pp.20-26). Original title: Probursalia (Tricladida-Paludicola) of Manchoukuo. Annot. Zool. Japon., 18: 155-164+pl. 7.

Note. This is a complete translation in Chinese from the original English paper; reproduction of Plate 7 is added. Explanation of Pl. 7 and abbreviations of the original paper are simplified.

4. KATÔ, K., 1944 (Chinese translation on pp.27-28). Original title in English of this Japanese paper: On some turbellarians from Hangchow. (Reports on the limnological survey of Central China, XVIII.) Shanghai Sizenkagaku Kenkyûsyô Ihô (published by the Shanghai Science Institute), 14: 357-359.

Note. This is a complete translation in Chinese from the original Japanese paper.

5. TU, Tseng-jui, 1949. (Chinese reproduction on pp.29-30). English translation of the original Chinese title: [Freshwater planarians and their reproduction]. [Education & Science], (Jiäoyù yu Kêxuê), 2 (6): 1-3.

Note. This is a complete reproduction from the original Chinese paper (vertical writing).

6. KATÔ, K., 1944 (Chinese translation on pp.32-35). Original title in English of this Japanese paper: Turbellaria of Shansi, China. Zool. Mag., Tôkyô, 59: 188-190.

Note. This is a complete translation in Chinese from the original Japanese paper.

7. MARCUS, E., 1953 (Chinese translation on pp.36-40). Original title: Turbellaria Tricladida. Inst. Parcs Nat. Congo Belge, Explor. Parc Nat. de l'Upemba. I. Miss. G. F. DE WITTE, (21): 1-62.

Note. This is a translation in Chinese of the *Dugesia gonocephala* section of MARCUS' 1953 paper (pp.6-12 including figs.1, 4-7; figs.2 and 3).

8. HUANG, Shih (= HUANG, C.) & TU, Tseng-jui, 1956 (Chinese reproduction on pp.41-51). Original title in English of this Chinese paper: The distribution and the seasonal change in the reproductive organs of *Euplanaria gonocephala* (DUGÈS) in Kunming and its vicinity. Bull. Santung Univ. (Shāndōng Dāhsüeh Hsüehbao), 2 (4): 104-118.

Note. This is a complete reproduction from the original Chinese paper (without an English summary).

9. ICHIKAWA, A. & OKUGAWA, K. I., 1958 (Chinese translation on pp.52-59). Original title: Studies on the probursalians (fresh-water triclad) of Hokkaido. I. On two new species of the genus *Dendrocoelopsis* KENK, *D. lacteus* and *D. ezensis*. Bull. Kyoto Gakugei Univ., ser. B, (12): 9-18+pls.1-5.

Note. This is a complete translation in Chinese from the original English paper (without 5 plates and their explanations).

10. TU, Tseng-jui & PO, Hsiang-kên, 1959 (Chinese reproduction on pp.60-64). English translation of the original Chinese title: [Distribution of *Dugesia gonocephala* (DUGÈS) in China and North Korea]. Chinese Jour. Zool., 9: 416-419.

Note. This is a complete reproduction from the original Chinese paper.

11. ICHIKAWA, A. & KAWAKATSU, M., 1964 (Chinese translation on pp.65-70). Original title: A new freshwater planarian, *Dugesia japonica*, commonly but erroneously known as *Dugesia gonocephala* (DUGÈS). Annot. Zool. Japon., 37: 185-194.

Note. This is a translation in Chinese from the original English paper; figs.1-2, 4 of the original paper are omitted.

12. ICHIKAWA, A. & KAWAKATSU, M., 1967 (Chinese translation on pp.71-78). Original title: Report on freshwater planaria from the East China Sea area. In: KIRA, T. & K. IWATA (eds.), "Nature and Life in Southeast Asia", 5: 175-188. Kyôto.

Note. This is a translation in Chinese from the original English paper; figs.2 and 4 of the original paper are omitted.

13. KAWAKATSU, M., OKI, I., TAMURA, S. & SUGINO, H., 1976 (Chinese translation on pp.79-103). Original title: Studies on the morphology, karyology and taxonomy of the Japanese freshwater planarian *Dugesia japonica* ICHIKAWA et KAWAKATSU, with a description of a new subspecies, *Dugesia japonica ryukyuensis* subsp. nov. Bull. Fuji Women's College, (14), ser. II: 81-126.

Note. This is a translation in Chinese from the original English paper; figs.1-2, 4, 6-7, 9-11, 13, 15-17, and "Additions" in Japanese in the original paper are omitted.

14. LUE, Kuang Yang & KAWAKATSU, M., 1986 (Chinese translation on pp.104-109). Original title: History of the study of Turbellaria in China. Part 1: Ages of Materia Medica and early expeditions by westerners. Hydrobiologia, 132: 317-322.

Note. This is a complete translation in Chinese from the original English paper.

15. KAWAKATSU, M. & LUE, Kuang Yang, 1984 (Chinese translation on pp.110-120). Original title: History of the study of Turbellaria in China. Part 2: Age of studies by Japanese and

Chinese turbellariologists. Bull. Fuji Women's College, (22), II: 105-117.

Note. This is a complete translation in Chinese from the original paper (without fig. 1).

16. DYGANOVA, R. I. & PORFIRJEVA, N. A., 1990 (Chinese translation on pp. 121-122). Original title by Roman letters of this Russian paper: Planarii Aziatskoj Chasti SSSR. Morfologija, Sistematika, Rasprostranenie. Izdatel'stvo Kazanskogo Universiteta, pp. 1-149+3 pages.

Note. This is a translation in Chinese of the sections "*Polycelis koslowi* (ZABUSOV, 1911)" and "*Polycelis asiatica* SELIVANOVA, 1985" (pp. 72-75 in the original paper).

17. KAWAKATU, M. & MIYAZAKI, T., 1972 (Chinese translation on p. 123). Original title: Effect of different fixatives on a common Japanese freshwater planarian, *Dugesia japonica* ICHIKAWA et KAWAKATSU. Bull. Fuji Women's College, (10), ser. II: 81-117 (+pls. VII-XXXII).

Note. This is a translation in Chinese of the section "Appendix": The collection and fixation of planarians on-the-spot —For the members of expeditions— (p. 90 in the original paper).

18. LIU, De-zeng, 1988 (Chinese reproduction on pp. 124-125). English translation of the original Chinese title: [Freshwater planarians from Heilongjiang Province, China]. Territory and Natural Resources Study, Harbin (Guotu yu Ziaran Yanjiu), (40) (no. 4 for 1988): 17, 47-48.

Note. This is a reproduction from the original Chinese paper (except for a table entitled "Freshwater planarians hitherto reported in Heilongjiang Province". New records of occurrence in China of 3 freshwater planarian species were given: *Phagocata vivida* (IJIMA et KABURAKI, 1916), *Dendrocoelopsis lactea* ICHIKAWA et OKUGAWA, 1958, and *Bdellocephala* sp. Considerations about *Phagocata miyadaii* OKUGAWA, 1939, and *Phagocata uenoi* OKUGAWA, 1939, were also given.

19. LIU, De-zeng, 1989 (Chinese reproduction on pp. 126-128). English translation of the original Chinese title: [Collecting, breeding and regeneration experiment of freshwater planarians]. Chinese Jour. Zool., 24 (2): 26-28.

Note. This is a reproduction from the original Chinese paper (without figures). *Dugesia japonica* ICHIKAWA et KAWAKATSU, 1964, and *Phagocata vivida* (IJIMA et KABURAKI, 1916) were used.

*20. LIU, De-zeng, 1989 (Chinese reproduction on p. 129). English translation of the original Chinese title: [Studies on the taxonomy and geographical distribution of freshwater planarians in China]. Abstracts of the 12th Congress of the Zoological Society of China, pp. 110-111.

Note. This is a reproduction from the original Chinese abstract.

21. LIU, De-zeng, 1989 (Chinese reproduction on pp. 130-136). English translation of the original Chinese title: [Freshwater planarians (Tricladida) of China]. Chinese Jour. Zool., 24 (6): 38-43, 31.

Note. This is a complete reproduction from the original Chinese paper. Taxonomic notes on the following 7 species were given: *Dugesia japonica* ICHIKAWA et KAWAKATSU, 1964; *Phagocata vivida* (IJIMA et KABURAKI, 1916); *Dendrocoelopsis lactea* ICHIKAWA et OKUGAWA, 1958; *Bdellocephala* sp. from Heilongjiang Province; *Polycelis tibetica* HYMAN, 1934; *Phagocata miyadaii* OKUGAWA, 1939; *Phagocata uenoi* OKUGAWA, 1939. Notes on some records of uncertain planarians in China were also given.

22. LIU, De-zeng, 1989 (Chinese reproduction on pp. 137-138). English translation of the original Chinese title: [A preliminary introduction to the fresh water Tricladida of China]. Bull. Biol., Peking (Shengwuxue Tongbao), (no. 9 for 1989): 10, 38.

Note. This is a complete reproduction from the original Chinese paper. External appearance of 7 Chinese species (figs. 1-7) was given. Cf. No. 21.

23. LIU, De-zeng, 1990 (Chinese reproduction on pp.139-141). Original title in English of the Chinese paper: On the discovery of the family Dendrocoelidae and *Phagocata vivida* from China. Acta Zootaxon. Sinica, 15 (1): 124-127.

Note. This is a reproduction from the original Chinese paper (without an English summary). Taxonomic notes on *Dendrocoelopsis lactea* ICHIKAWA et OKUGAWA, 1958, *Phagocata vivida* (IJIMA et KAKURAKI, 1916) and *Bdellocephala* sp. from Heilongjiang Province were given.

24. LIU, De-zeng, 1990 (Chinese reproduction on p.142). English translation of the original Chinese title: [The correct scientific name of a Chinese freshwater planarian with a triangular head. Bull. Biol., Peking (Shengwaxue Tōngbào), (no. 7 for 1990): 33.

Note. This is a reproduction from the original Chinese paper. In China, *Dugesia japonica* ICHIKAWA et KAWAKATSU, 1964, is distributed in wide geographical areas. *Dugesia gonocephala* (DUGÈS, 1830) is not distributed in China.

*25. LIU, De-zeng, 1991 (Chinese reproduction on pp.143-144). English translation of the original Chinese title: [Identification method of freshwater planarians]. In: [Experiments of Invertebrate Zoology], pp.199-202.

Note. This is a reproduction of a section in the original Chinese book. Notes on 7 species reported from China were given. Cf. Nos. 21, 22.

*26. LIU, De-zeng, 1991 (Chinese reproduction on pp.145-146). English translation of the original Chinese title: [Regeneration experiments of freshwater planarians]. In: [Experiments of Invertebrate Zoology], pp.192-194.

Note. This is a reproduction of a section in the original Chinese book. Three figures by MIYAZAKI & KAWAKATSU (1974, p. 58, fig. 1; 1980, p. 2, figs. 1-2) are cited. The papers are the followings. 1) Planarian regeneration: Monsters of *Dugesia japonica*. The Heredity (Iden), Tōkyō, 28 (11): 57-63. (In Japanese.) 2) Planarian regeneration: Monsters with 11 heads and 14 heads in *Dugesia japonica japonica*. Occ. Publ., Biol. Lab. Fuji Women's College, Sapporo (Hokkaidō), Japan, (4): 1-6. (In Japanese, with English summary.)

27. LIU, De-zeng, 1991 (Chinese reproduction on pp.147-148). English translation of the original Chinese title: [Taxonomy of Chinese freshwater planarians]. Reference Data Book of Zoology for Chinese High School Teachers (Zhuāuzhuāntf), pp. 32-35. Peking Normal Univ. Press, Peking.

Note. This is a reproduction from the original Chinese paper (except for fig. 2 (figures of 7 species) and a list of Chinese species in the original publication). The known records of Chinese freshwater planarians were given. The figure by KAWAKATSU (1978, p. 80, fig. 2; diagram illustrating the possible direction of differentiation of the internal muscular zone of the pharynx in Tricladida Paludicola) is cited. The paper is the following. A list of publications on Japanese Turbellarians (1977)---Including titles of publications on foreign Turbellarians written by the Japanese authors... Bull. Fuji Women's College, (16), ser. II: 67-82. (Both in English and Japanese.)

28. LIU, De-zeng & LI, Guang-peng, 1991 (Chinese reproduction on pp.149-152). English translation of the original Chinese title: The rescue and protection of cold springs and spring-habitated organisms in China. Territory and Natural Resources Study, Harbin (Guotu yu Ziaran Yanjiu), (52) (no.3 for 1991): 50, 52-56.

Note. This is a reproduction from the original Chinese paper.

29. LIU, De-zeng, 1992 (Chinese reproduction on pp.153-158). English translation of the original Chinese title: [Taxonomy and distribution of freshwater planarians in China]. In: "Presentation of the New Results of Taxonomic Studies on Chinese Freshwater Planarians, 1992 (MS)".

Note. This is a reproduction from the original unpublished Chinese document : [Preliminary report on the taxonomy and distribution of freshwater planarians in China]. It consists of 3 sections, *i.e.*, i) Taxonomic list of Chinese freshwater planarians, ii) List of their localities, and iii) Map showing the distribution of all known freshwater planarians of China (see Fig. 3).

In the list of Chinese freshwater planarians (on p. 154), the new species names of 5 *Polycelis* species named by the author are included. For details, see the next section.

30. LIU, De-zeng, 1992 (Chinese reproduction on pp. 159-165). English translation of the original Chinese title : [Recent progress of taxonomic study in the genus *Polycelis* (Tricladida)]. In : "Presentation of the New Results of Taxonomic Studies on Chinese Freshwater Planarians, 1992 (MS)".

Note. This is a reproduction from the original unpublished Chinese document : [Recent progress of taxonomic study in the genus *Polycelis* (Tricladida)]. It includes brief taxonomic descriptions of 5 new *Polycelis* species from China (see Fig. 4). The contents are : A list of 35 *Polycelis* species and 6 subspecies now known from the world (including 5 new species from China), a map of the Xizang Autonomous Region in China and Kashmir in India showing the distribution of 6 *Polycelis* species (including 4 new species ; see Fig. 7), and reduced figures of the copulatory apparatus (sagittal views) of 28 *Polycelis* species from the world. For details, see the next section.

31. LIU, De-zeng, 1992 (Chinese reproduction on pp. 166-171). English translation of the original Chinese title : [Description of a new *Polycelis* species from Mt. Wutaishan, Shanxi (Shanxi) Province, China]. In : "Presentation of the New Results of Taxonomic Studies on Chinese Freshwater Planarians, 1992 (MS)".

Note. This is a reproduction from the original unpublished Chinese document : Notes on one new species of genus *Polycelis* from Wutaishan Mountain of China (Tricladida : Paludicola : Planariidae). It includes a taxonomic description of Mr. LIU's new species, *Polycelis wutaishanica* ; 4 figures (the arrangement of eyes, general arrangement of the genital organs, and 2 figures of the transverse sections at the level of the copulatory apparatus), descriptions of the type specimen, type locality, and differential diagnosis are given. For details, see the next section.

*32. LIU, De-zeng, 1995 (In press) (Chinese reproduction on pp. 172-175). English translation of the original Chinese title : [Descriptions of 2 new *Polycelis* species from China (Tricladida. Paludicola. Planariidae)]. [Limnobiol. Bull.] (Shuisheng Shengwu Xuebao), 19 (1).

Fig. 3. Modified reproduction of LIU's map (on p. 158) showing the distribution of freshwater planarians in China (symbols are changed). In this modified figure, a blank map used by KAWAKATSU & LIU (1987, p. 45, fig. 1) are employed. The datum of *Dugesia japonica* from a well in Matsu-tao Island (cf. KAWAKATSU, OKI, TAMURA, YAMAYOSHI, LUE & HAGIYA, 1979, pp. 6, 66, fig. 2 A, p. 71, table 1, p. 72, fig. 5 A, p. 75, fig. 6-1) is added. The Shanxi (Shanxi) Province where *Polycelis wutaishanica* LIU, 1993, was reported is also shown. The distribution data in the other countries except for Kashmir in India are not shown in the map. Abbreviations in the bottom-right corner : Ld, LIU's data ; pr, previous records reported by several authors. *Phagocata miyadaii* OKUGAWA, 1939, is a synonym of *Phagocata vivida* (IJIMA et KABURAKI, 1916) (cf. KAWAKATSU, TIMOSHKIN, PORFIRJEVA & TAKAI, 1993, 1994, In press).

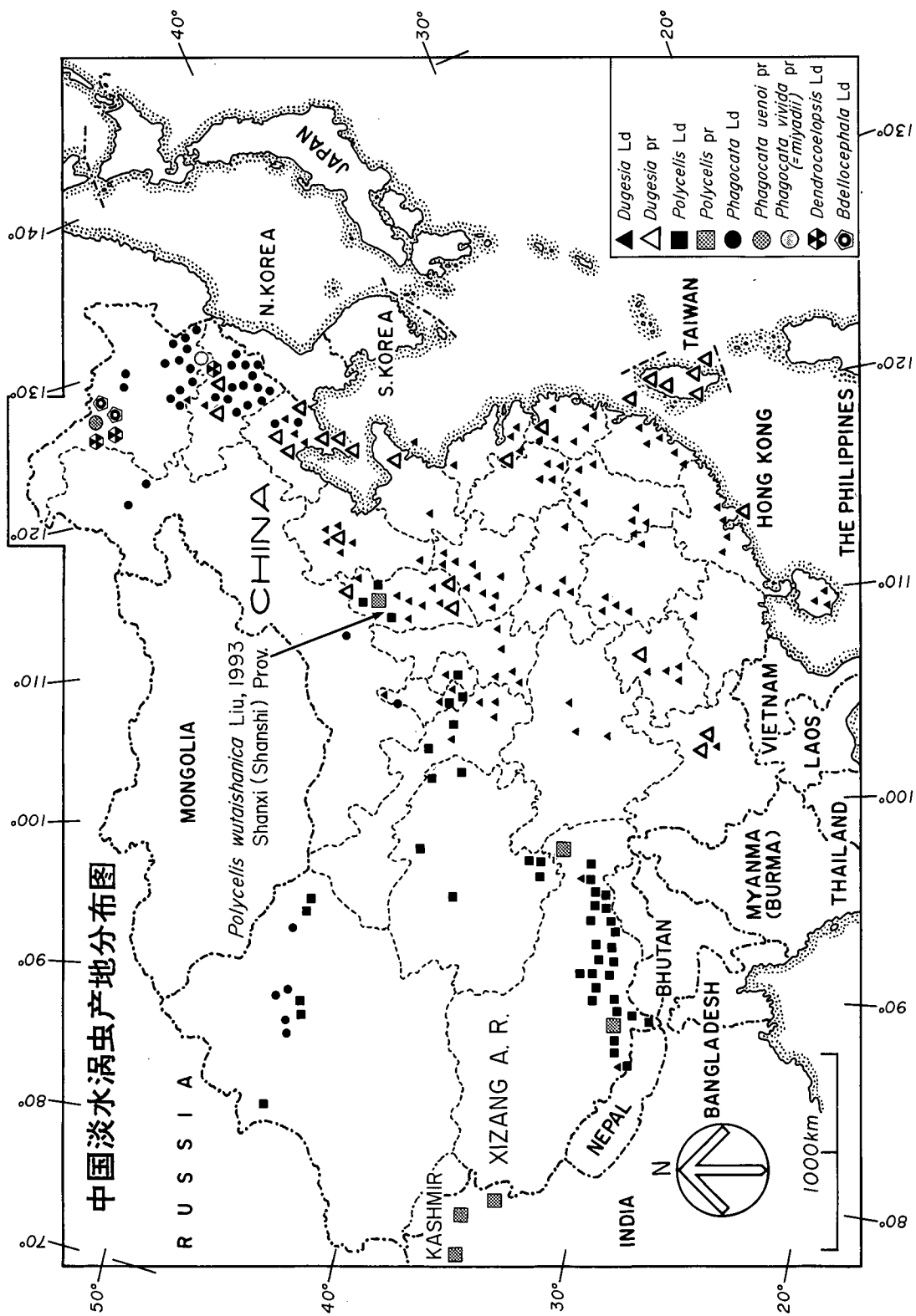


Fig. 3. For explanation, see page 52.

Note. This is a reproduction from the proof, or a manuscript, which will be published in the beginning of 1995. However, its Chinese reproduction was already published as a section of Mr. LIU's 1993 book. It includes taxonomic descriptions of LIU's 2 new species, *Polycelis sinensis* and *Polycelis lhunzhubica*; a figure (the arrangement of eyes and the general arrangement of the genital organs), description of the type specimen, type locality, and differential diagnosis for each species are given. For details, see the next section.

33. LIU, De-zeng, 1994 (In press) (Chinese reproduction on pp.176-180). English translation of the original Chinese title: [Descriptions of 2 new *Polycelis* species from the Xizang Autonomous Region, China (Tricladida: Paludicola: Planariidae)]. Acta Zootaxon. Sinica, 19 (1).

Note. This is a reproduction from the proof, or a manuscript, which will be published in the beginning of 1994. However, its short reproduction in Chinese was published as a section of Mr. LIU's 1993 book. It includes taxonomic descriptions of his 2 new species, *Polycelis nyingchia* and *Polycelis xigazensis*; a set of 2 figures (the arrangement of eyes and the general arrangement of the genital organs, and the sagittal view of the copulatory apparatus), description of the type specimen, type locality, and differential diagnosis for each species are given. The 1994 paper was already published (see Introduction of the present publication). For the taxonomic treatment, see the next section.

34. LIU, De-zeng, 1993 (published in the 1993 book in Chinese on pp.181-182; see Fig. 8). English translation of the original Chinese title: [The species name of "*Polycelis tibetica* HYMAN, 1934" is corrected as *Polycelis kashmirica* (HYMAN, 1934)].

Note. The content of this Chinese paper seems to be a presentation of a new replacement name for HYMAN's 1934 species reported from Kashmir. For the taxonomic treatment, see the Section IV of this publication.

35. LIU, De-zeng, 1992 (Chinese reproduction on pp.183-184). English translation of the original Chinese title: [A consideration from field surveys of the highland area of Tibet (Xizang)]. In: "Presentation of the New Results of Taxonomic Studies on Chinese Freshwater Planarians, 1992 (MS.)".

Note. This is a reproduction from the original unpublished Chinese document. Nature of the surveyed area was reported; descriptions of planarians are not given.

III. TAXONOMIC AND NOMENCLATURAL REARRANGEMENT OF LIU'S (1993, 1994) NEW *POLYCELIS* SPECIES REPORTED FROM CHINA

Judging from the contents of LIU's 1993 book, 1994 paper and preprints (see "Introduction" of the present publication), it is clear that he has a plan to publish several taxonomic papers on Chinese freshwater planarians after the beginning of 1994. One of his serial papers on 2 new *Polycelis* species from the Xizang Autonomous Region was previously published (official indication in Acta Zootaxon. Sinica, vol.19, no. 1, is January, 1994); the date of publication is specified as January 31, 1994. And, he will publish descriptions of the remaining 6 new *Polycelis* species from China in his future publications (In press and/or MSS.).

Unfortunately, he overlooked several important rules of the ICZN (3rd ed.): Arts. 11, 12, 13, 21, 22, 23, Appendix E, General Recommendation, 4, 5, 7, 15, 17, 21, 22, 23. Especially, Art. 13 (a) is important; it is as follows:

"To be available, every new scientific name published after 1930 must satisfy the provisions

of Article 11, and must be (i) accompanied by a description or definition that states in words characters that are purported to differentiate the taxon, or (ii) accompanied by a bibliographic reference to such a published statement even if contained in a work published before 1758 or that is not consistently binominal (for information excluded for reasons of anonymity after 1950 see Article 14), or (iii) proposed expressly as a new replacement name (nomen novum) for an available name”.

Five new species names of the genus *Polycelis* EHRENBERG, 1831, are found in several sections (or articles) of LIU's 1993 book (Introduction and nos. 29-33 articles; see the Section II of the present publication). Repeatedly, each of these 5 new names is followed by an abbreviation “sp. nov.” These new names printed in the lists of the “Introduction” (p. 2) and “no. 27 article” (p. 154) were not accompanied by species descriptions (with localities in the “Introduction”). Thus, they are “nomina nuda”. Cf. ICZN (3rd ed.), Append. E, Gen. Recom., 7, 17, 22, and 23.

Five new *Polycelis* species are described briefly in article no. 30 of LIU's 1993 book (Fig. 4). Each species description in Chinese consists of an external appearance of animals, anatomical characters of the copulatory apparatus, differential diagnosis, and localities (see no. 31 article, Note, in the Section II of the present publication). Although each of these descriptions of animals is not accompanied by a figure(s) and designation of a type specimen, it seems to be that the 5 new scientific names of *Polycelis* species from China are available. Cf. ICZN (3rd ed.), Art. 13 (a).

According to Art. 23 of the ICZN, Mr. LIU's descriptions of 5 new *Polycelis* species printed in article nos. 31-33 in the 1993 book and in his 1994 paper should be considered as redescrptions of the species.

Mr. LIU's preprints (see “Introduction” in the present publication) include new names of 8 *Polycelis* species and their figures showing arrangement of eyes, genital organs, and sagittal views of the copulatory apparatus. Among these species, 5 of them were already described as new species in his 1993 book (see also his 1994 paper). Since LIU's preprints are not considered as “a work to be regarded as published within the meaning of the Code”, the remaining 3 new species names will be available after their descriptions have been published. Cf. ICZN (3rd ed.), Arts. 7-9.

The taxonomic considerations mentioned above are shown in the following list of synonymical names of 5 *Polycelis* species from China (abbreviations: AE, arrangement of eyes; DB, dorsal view of the body; DH, dorsal view of the head; FCA, schematic figures of the copulatory apparatus; HI, histological figures; PCA, photographs of the copulatory apparatus).

Polycelis wutaishanica LIU, 1993

Polycelis wutaishanica nom. nud. Liu, 1993: 2.

Polycelis wutaishanica nom. nud. Liu, 1993: 154, 156.

Polycelis wutaishanica n. sp. Liu, 1993: 160, 162. Mt. Wudaishan, Shanxi (Shanxi) Province / China.

Polycelis wutaishanica: Liu, 1993: 166-170, figs. 1-4 (DB, DH, AE, HI). Redescription. Mt. Wutaishan (alt. 2000-2400 m), Shanxi Province / China.

Polycelis wutaishanica: Liu, 1994 b: 118.

Polycelis wutaishanica: Liu, 1994 c: 544, 547-548.

Polycelis sinensis LIU, 1993

Polycelis sinensis nom. nud. Liu, 1993: 2.

Polycelis sinensis nom. nud. Liu, 1993: 154, 156.

Polycelis sinensis n. sp. Liu, 1993 : 160, 162-163, fig. (distribution map). The vicinity of Lāsà (alt. 3800-4400 m), Xizang Autonomous Region (Tibet) / China.

Polycelis sinensis : Liu, 1993 : 172-174, fig. 1 (DB, AE, HI). Redescription. The vicinity of Lāsà, Xizang Autonomous Region / China.

Note. "*Polycelis senensis*" in the explanation of fig. 1 is spelling error.

Polycelis sinensis : Liu, 1993 : 182.

Polycelis sinensis : Liu, 1994 b : 118.

Polycelis sinensis : Liu, 1994 c : 544, 547-548.

Polycelis lhunzhubica LIU, 1993

Polycelis lhunzhubica nom. nud. Liu, 1993 : 2.

Polycelis lhunzhubica nom. nud. Liu, 1993 : 154, 156.

Polycelis lhunzhubica n. sp. Liu, 1993 : 160, 162-163, fig. (distribution map). Linzhouxiàn (alt. 4800 m), Xizang Autonomous Region (Tibet) / China.

Polycelis lhunzhubica : Liu, 1993 : 172, 174-175, fig. 2 (DB, AE, HI). Redescription. Linzhouxiàn, Xizang Autonomous Region / China.

Polycelis lhunzhubica : Liu, 1993 : 182.

Polycelis lhunzhubica : Liu, 1994 b : 118.

Polycelis lhunzhubica : Liu, 1994 c : 544, 547-548.

Polycelis nyingchica LIU, 1993

Polycelis nyingchica nom. nud. Liu, 1993 : 2.

Polycelis nyingchica nom. nud. Liu, 1993 : 154, 156.

Polycelis nyingchica n. sp. Liu, 1993 : 161-163, fig. (distribution map). Linzhī District (Nyingchi County and Bomi County ; alt. 3800-4600 m), Xizang Autonomous Region (Tibet) / China.

Polycelis nyingchica : Liu, 1993 : 176-178, figs. 1-2 (DB, AE, HI, FCA). Redescription. Linzhī District, Xizang Autonomous Region / China.

Polycelis nyingchica : Liu, 1994 : 10-12, figs. 1-2 (DB, AE, HI, FCA), 15, pl. I, figs. 1-4 (HI, PCA). Redescription. Linzhī District, Xizang Autonomous Region / China.

Polycelis nyingchica : Liu, 1994 b : 118.

Polycelis nyingchica : Liu, 1994 c : 544, 546, 548.

Polycelis xigazensis LIU, 1993

Polycelis xigazensis nom. nud. Liu, 1993 : 2.

Polycelis xigazensis nom. nud. Liu, 1993 : 154, 156.

Polycelis xigazensis n. sp. Liu, 1993 : 161-163, fig. (distribution map). Rikāzē District (Nagarze County, Gyangze County, Kangmar County, Yadong County, Lhaze County, Tingri County, and Nyalam County ; alt. 3000-4800 m), Xizang Autonomous Region (Tibet) / China.

Polycelis xigazensis : Liu, 1993 : 176-180, figs. 3-4 (DB, AE, HI, FCA). Redescription. Rikāzē District, Xizang Autonomous Region / China.

Polycelis xigazensis : Liu, 1993 : 182.

Polycelis xigazensis : Liu, 1994 : 10, 12-15, figs. 3-4 (DB, AE, HI, FCA), pl. I, figs. 5-8 (PCA). Redescription. Rikāzē District, Xizang Autonomous Region / China.

Polycelis xigazensis : Liu, 1994 b : 118.

Polycelis xigazensis : Liu, 1994 c : 546, 548.

Polycelis xigazensis : Liu, 1994 c : 544. Misspelling.

多目涡虫分类学研究新进展*

刘德增

扁形动物门 (Phylum Platyhelminthes), 涡虫纲 (Class Turbellaria), 三肠目 (Order Tricladida), 淡水亚目 (Suborder Paludicola), 扁涡虫科 (Family Planariidae), 多目涡虫属 (Genus *Polycelis*) 动物是淡水涡虫中一个非常重要的类群, 该属的大多数种分布于亚洲的中部和东部, 少数种分布于欧洲和美洲。

自从马勒 (Muller 1774) 报道和定名欧洲的多目涡虫 *Polycelis (Fasciola) nigra* 以来, 多目涡虫分类学研究已有二百多年的历史, 迄今已经发现三十五种。二十世纪以前, 欧美专家于欧洲和美国先后发现这类涡虫五、六种。二十世纪五、六十年代以前的六十年间, 是多目涡虫属分类和区系研究的盛期, 俄、日、美、欧各国专家于中亚的哈萨克、俄国、阿富汗、西藏等地, 和东亚的日本、萨哈林、堪察加等地先后发现这类涡虫二十几种。近三十年来, 同其它属种涡虫的情况一样, 多目涡虫种的发现已经很少, 仅有塞利瓦诺娃 (Selivanova 1985) 于俄国发现 *Polycelis asiatica*, 和史密特 (Smith 1988) 于美国发现 *Polycelis remota* 两个新种, 以及肯克等 (Kenk and Hampton 1982) 重新定名 *Polycelis coronata monticola* 一新亚种。

笔者近年来于我国西藏、青海、新疆、甘肃、宁夏、山西等省的52个县先后发现多目涡虫产地, 已经鉴定出西藏和山西的多目涡虫属5个新种, 这是我国专家首次发现淡水三肠目涡虫新种, 是我国淡水三肠亚目涡虫分类学研究突破性进展。我国西部各省过去考察较少, 已经发现了很多涡虫产地。我国的西藏, 这块涡虫研究的处女地, 它地势高峻, 山河纵横隔离, 湖泊星罗棋布, 许多地区的森林茂密, 泉溪丰富, 污染轻微, 亚东、樟木、墨脱、察隅、珞瑜、芒康等地蕴藏着珍稀和丰富的无脊椎动物种类, 生境隔离形成众多的种间差异。笔者两年进藏考察, 也仅仅调查了一小部份地区, 就于西藏发现4个新种, 加上俄专家过去于西藏发现的1种, 总计5种, 今后肯定还能发现一些新种, 已经证明: 西藏是多目涡虫种的高发区。在整个世界涡虫区系调查已近尾声的今天, 我国西部地区已经和将要发现一大批涡虫新种, 必将引起各国动物界和涡虫分类学家们关注, 这是世界多目涡虫分类学研究的一个新的进展。

多目涡虫属动物具备一些共同的生物学特征: 它们的身体细长和扁平; 一般体长10—20mm; 大多数黑色、褐色和少数乳白色; 眼点几十只到二、三百只, 于头脊面形成眼带; 一条前肠和两条后肠; 咽头较粗长, 它一般位于身体后半部的前端; 生殖孔比较接近于尾部; 咽头内肌序由两个肌纤维层组成, 即一厚的环肌内层和一薄的纵肌外层; 精巢数十个, 位于卵巢到咽基之间; 两条输卵管不环绕着交配囊柄, 于雄腔上部结合成总输卵管; 每种都有独特形状的阴茎、交配囊和交配囊柄; 没有总生殖腔, 只有雄腔; 它们都是雌雄同体异体受精动物, 喜爱生存于海拔较高和水温较低的泉溪中。

我国新发现的五种多目涡虫新种如下:

* 国家自然科学基金资助课题(批准编号38970125和39270101)和黑龙江省省科学院经费资助课题。
本文于“中国淡水涡虫分类学研究成果鉴定会”(中科院动物所, 1992)发表。

(1) 五台山多目涡虫, 新种 (*Polycelis wutaishanica* Liu sp. nov.)

该新种充分有性成熟标本生活时体长20—25mm, 体宽3.5—4.0mm, 黑褐色, 头弓形或亚三角形, 运动时耳突不停地扇动和抬起。它的眼点总数达到386只(其它34种多眼涡虫的眼点仅有几十只至二百只), 这是迄今发现的淡水亚目已知种中史无前例的。巨大数目的眼点于头的脊面形成蟹爪形或钳子形的两条眼带, 眼带横排最宽处有7—8只眼点(该属眼点较多的种, 眼点形成圆弧形、马掌形或“八”字形, 眼带横排最宽处仅有1—4只眼点)。咽占体长的 $\frac{1}{3}$ — $\frac{1}{3.5}$, 占体宽的 $\frac{1}{4}$ 。前肠干有7—10个侧分枝, 每一后肠干有14—18个短侧分枝。精巢约120—150个, 位于咽前、前肠干两侧脊部和腹部位置。一个大的、桃形的阴茎埋置于生殖孔附近的腹侧, 宽大的、弱肌肉性质的球腔(贮精囊)和较小的、适中肌肉性质的阴茎乳突; 阴茎乳突的壁明显厚于球腔; 球腔顶端厚于底端; 阴茎乳突脊唇稍稍厚于腹唇, 射精管孔开口于乳突的尖端。没有总生殖腔; 雄腔较短, 漏斗形。交配囊是大的椭圆形囊; 交配囊柄紧靠脊壁延伸, 是一条很粗的管, 雄腔的上方间质中有一条环肌横于总输卵管的上端, 该环肌不位于阴道附近。

产地: 山西省五台县五台山的龙泉寺、镇海寺、日照寺、台怀镇等地, 和繁峙县茶铺村、大明烟、富家庄、大草坪村、庄子川村等地的冷涌泉溪水, 石下。

(2) 中华多目涡虫, 新种 (*Polycelis sinensis* Liu sp. nov.)

该新种充分有性成熟标本生活时体长15—20mm, 体宽2—2.5mm, 黑褐色, 头弓形, 耳突运动时不停地扇动。有性成熟个体眼点150—170只, 形成“八”形的两条眼带, 横排最宽处有3—4只眼点。咽占体长 $\frac{1}{4}$ — $\frac{1}{5}$ 和体宽的 $\frac{1}{5}$ 。前肠干有6—9条侧分枝, 每一后肠干有12—16条短侧分枝。精巢80—100个, 占据咽前和前肠干两侧的腹部位置, 背部很少。阴茎是一个大的、强肌肉性质的、圆锥形的球, 埋置于生殖孔附近的腹侧。阴茎球和阴茎乳突的壁都很厚; 球腔(贮精囊)很小; 射精管细长, 开口于乳突的尖端。没有总生殖腔; 雄腔较短, 漏斗形。交配囊是椭圆形的囊; 交配囊柄较粗, 它的后端附近有一环肌包围着交配囊柄。环肌附近的交配囊柄比前端明显细窄。

产地: 西藏拉萨市管辖的达孜县甘丹寺路北, 海拔3800m, 冷涌泉群的石下; 当雄县羊八井镇东南右木村, 海拔4300m 山溪河的石下; 林周县北海拔4400m, 泉溪河的石下; 墨竹工卡县东, 海拔4000m 山溪水的石下。

(3) 林周多目涡虫, 新种 (*Polycelis lhunzhubica* Liu sp. nov.)

该新种充分有性成熟个体生活时体长15—20mm, 体宽1.5—2.0mm, 黑褐色, 头弓形, 耳突十分明显和不时地抬起。体形较窄长, 尾端较钝尖。眼点90—110只, 组成“八”字形两条眼带, 横排最宽处有3—4只眼点。咽占体长的 $\frac{1}{4}$ 和占体宽的 $\frac{1}{5}$ 。前肠干有7—9条侧分枝, 每一后肠干有17—21条短侧分枝。精巢30个左右, 占据咽前前肠干两侧的腹侧和脊侧, 主要占据腹侧。阴茎突出生殖孔附近腹侧; 它是适中大小的椭圆形的球; 很厚的、强肌肉性质的壁; 球腔的脊侧厚于腹侧; 脊侧上皮参差不齐, 矢状切片中呈犬牙交错状, 而腹侧较平滑。阴茎乳突较小, 上唇厚于下唇。球腔较窄小; 射精管宽和短, 开口于阴茎乳突的尖端。没有总生殖腔; 雄腔较短, 漏斗形。交配囊椭圆形; 交配囊柄较粗, 它的后端又短又细, 有环肌包围和加厚。

产地: 西藏拉萨市管辖的林周县旁多乡北, 海拔4800m, 雪水融化的山溪水石下。

Fig. 4 (2).

(4) 林芝多目涡虫, 新种 (*Polycelis nyingchica* Liu sp. nov.)

该新种充分有性成熟个体生活时体长15—20mm, 体宽2.5—3.0mm, 黑褐色, 头弓形, 耳突运动时不停地扇动。眼点140—160只, 组成“八”字形眼带, 横排最宽处有3—4只眼点。咽占体长的1/4—1/5, 是体宽的1/5。前肠干有6—8条侧分枝, 每一后肠干有16—20条短侧分枝; 该新种前肠分枝间、前后肠分枝间和后肠分枝间经常发生肠间连接现象。精巢35—45个, 占据咽前和前肠干两侧的腹部位置。阴茎较小, 圆锥形或蘑菇形, 强肌肉性质的阴茎乳突; 球腔(贮精囊)是不规则的宽阔的囊; 阴茎乳突上下唇厚度接近。射精管十分细长和笔直, 开口于阴茎乳突的尖端。没有总生殖腔; 该新种的雄腔较长, 漏斗形。交配囊较小, 卵圆形; 交配囊柄较粗。

产地: 西藏林芝地区的林芝县色季拉山顶西, 海拔4600m, 积雪融化的山溪水石下; 林芝县鲁郎镇, 海拔3800m, 山溪和山溪河石下; 波密县古乡, 海拔4000m, 山溪水石下; 波密县西, 海拔4200m, 山溪水石下。

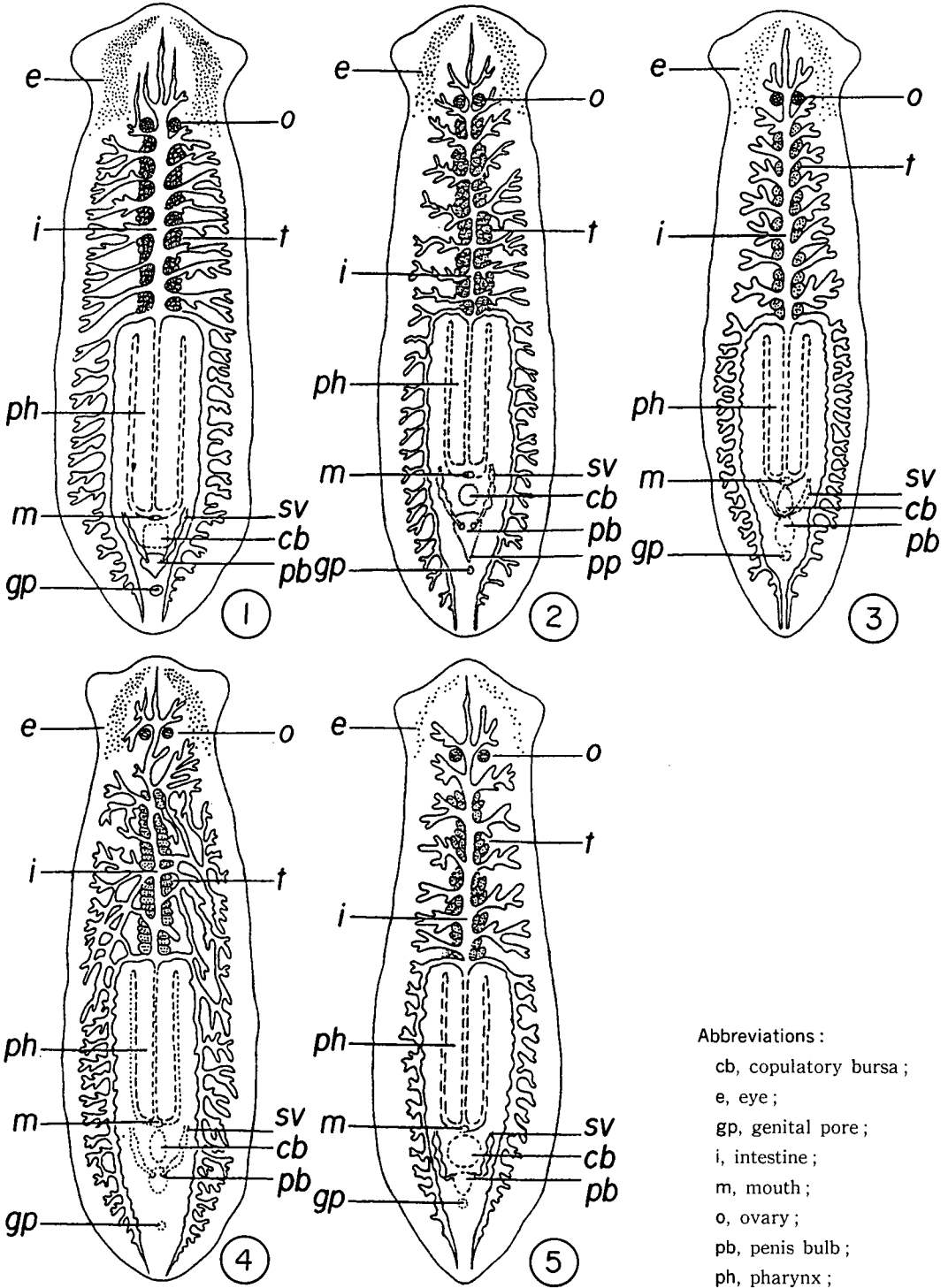
(5) 日喀则多目涡虫, 新种 (*Ploycelis xigazensis* Liu sp. nov.)

该新种充分有性成熟标本体长10—15mm, 体宽1.5—2.0mm, 黑褐色, 头亚三角形, 颈不明显。该新种的眼点较少, 一般个体仅有40—50只, 充分有性成熟个体也仅有45—85只; 眼点埋置表皮较深的部位; 眼带两条, 以单排沿前缘和侧缘排成一串珠状, 中间常常出现空缺。咽占体长1/4和体宽1/4。前肠干有5—7条侧分枝, 每一后肠干有14—17条短侧分枝。咽头内肌层由一厚的环肌内层和一薄的纵肌外层组成。精巢位于卵巢到咽头基部前肠干两侧的两个纵带, 占据间质的腹侧和脊侧, 30—40个左右。两条输精管于咽和交配囊两侧膨胀成两条输精囊(Spermiducal vesicle), 于阴茎前侧方分别通入阴茎球的球腔(即贮精囊)。卵巢一对位于前腹部。两条输卵管于雄腔上方结合成总输卵管。阴茎较小和交配囊很大。阴茎位于生殖孔附近的腹侧, 适中肌肉性质, 收缩时它呈球形, 球腔椭圆形, 阴茎乳突上唇和下唇重叠; 伸展时它呈圆锥体, 球腔拉长, 阴茎乳突从重叠到完全伸开, 这时射精管的孔开口于阴茎乳突的尖端。交配囊是大的球形囊, 前端有一个大凹洼, 该处长腺分泌上皮和数层颗粒分泌物呈现放射状。交配囊柄很粗, 沿阴茎上方弯曲到生殖孔。没有总生殖腔; 雄腔较短, 漏斗形。

产地: 西藏日喀则地区的浪卡子县北, 海拔4000m, 草甸涌泉; 江孜县东, 海拔3900m, 溪水; 康马县南, 海拔3800m, 草甸涌泉; 亚东县北, 海拔3000m, 山溪; 拉孜县南, 海拔4800m, 河旁小涌泉; 定日县南, 海拔3500m, 草甸涌泉; 聂拉木县北, 海拔3000m, 大涌泉。

Fig. 4 (3).

Fig. 4 (on pp. 57-59). Reproduction of the initial 3 pages of no. 30 article in LIU's 1993 book (pp. 159-161 in the original publication). Original descriptions in Chinese of 5 new *Polycelis* species are given on pages 160 and 161 of the book. Its draft is found on pages 18-20 of LIU's 1992 Chinese document. For other explanations, see no. 30 article in the Section II of the present paper (p. 52); see also "Addendum I" (pp. 67-69).



Abbreviations :

- cb, copulatory bursa ;
- e, eye ;
- gp, genital pore ;
- i, intestine ;
- m, mouth ;
- o, ovary ;
- pb, penis bulb ;
- ph, pharynx ;
- pp, penis papilla ;
- sv, spermiducal vesicle ;
- t, testis.

Fig. 5. For explanation, see page 63.

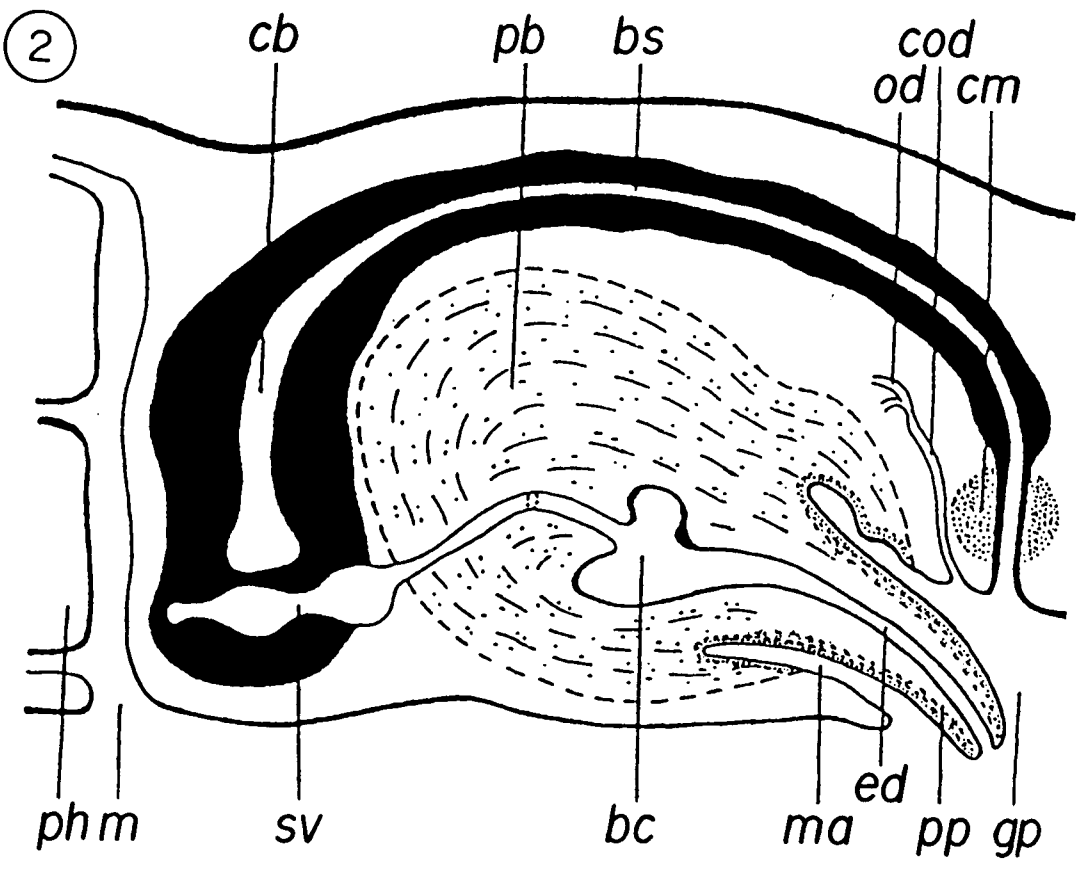
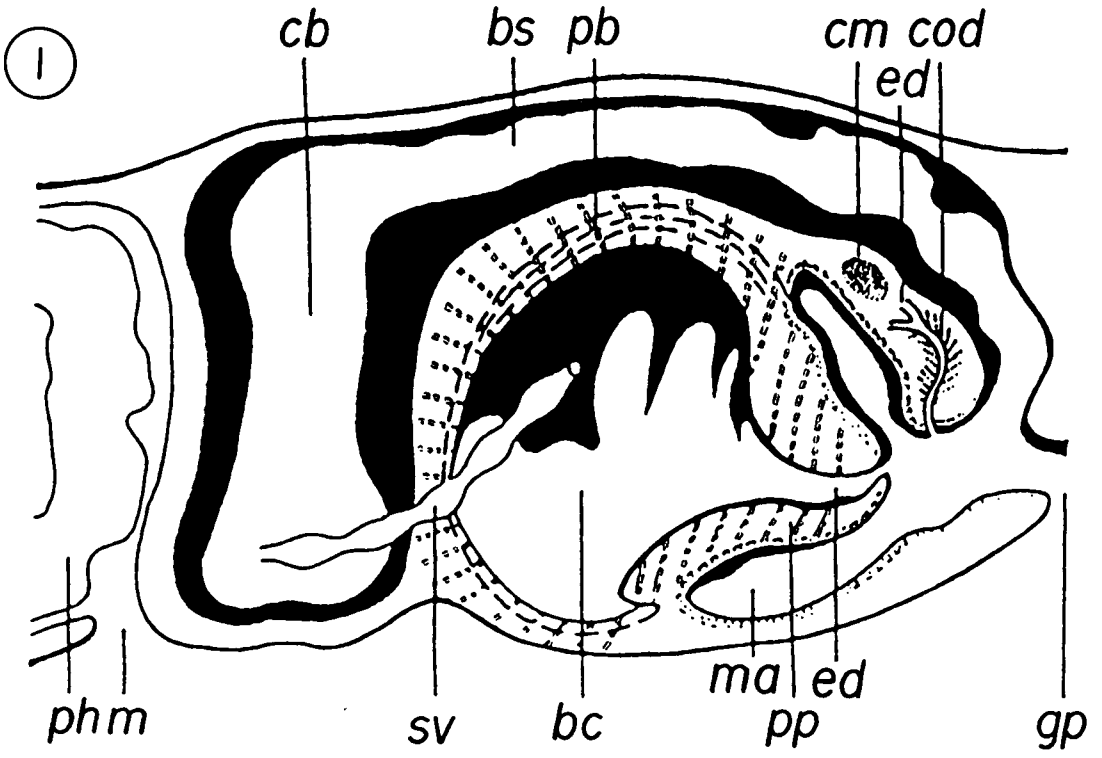
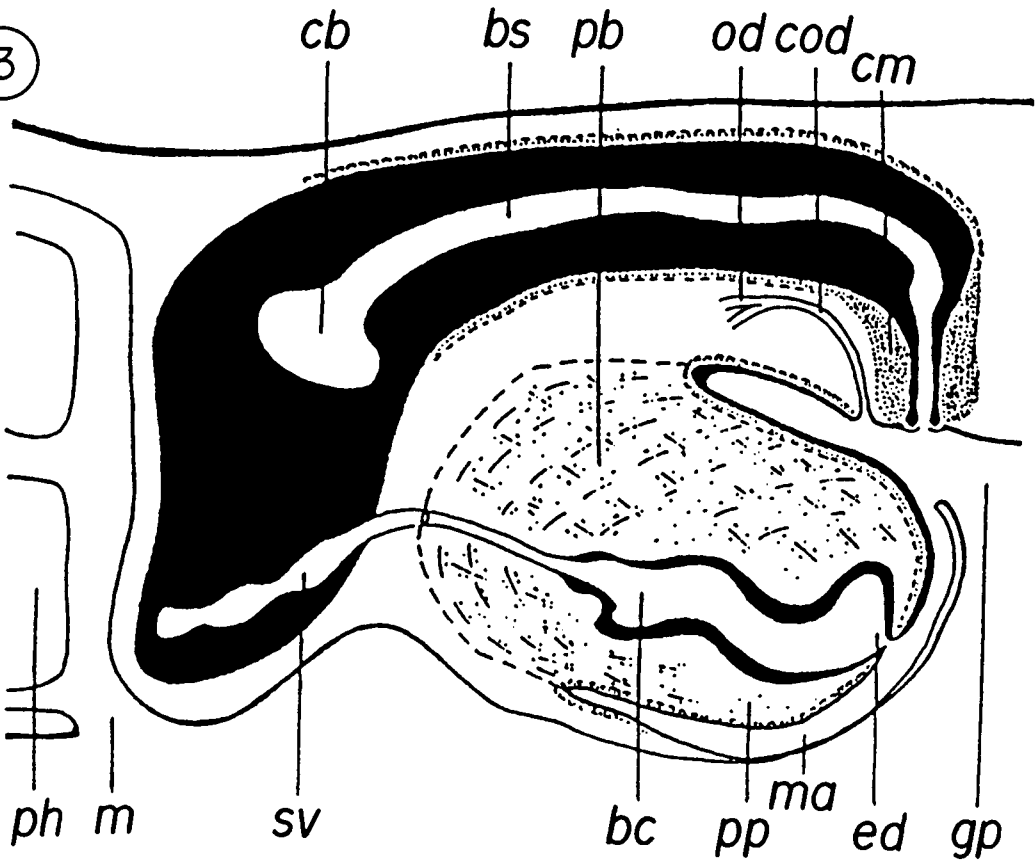


Fig. 6 (1).

3



4

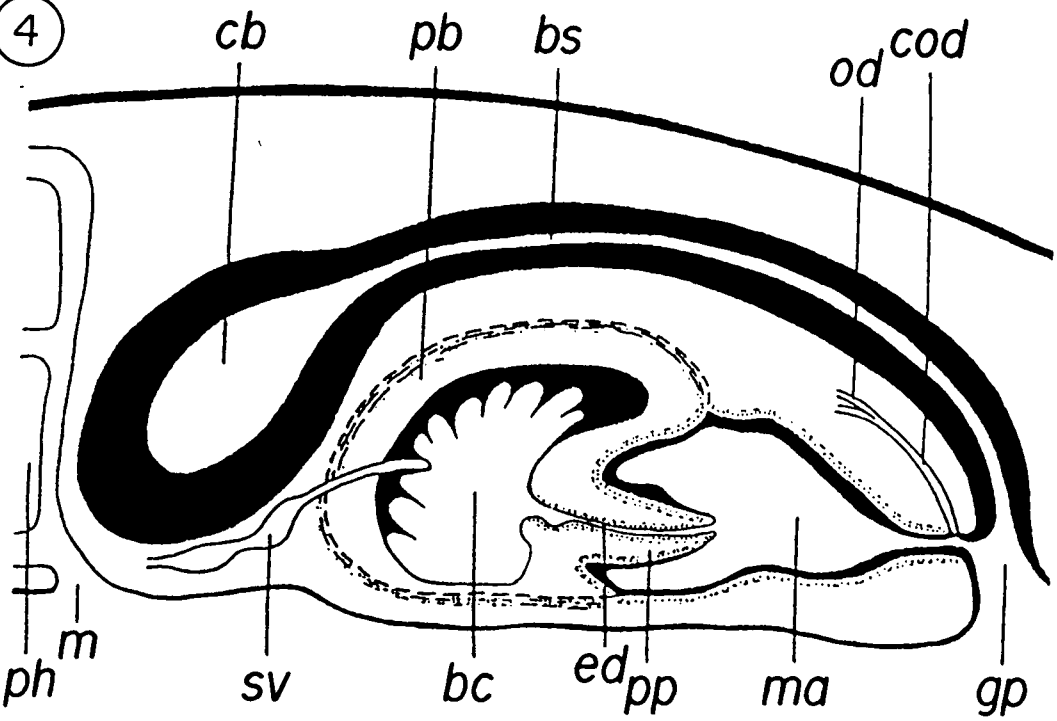


Fig. 6 (2).

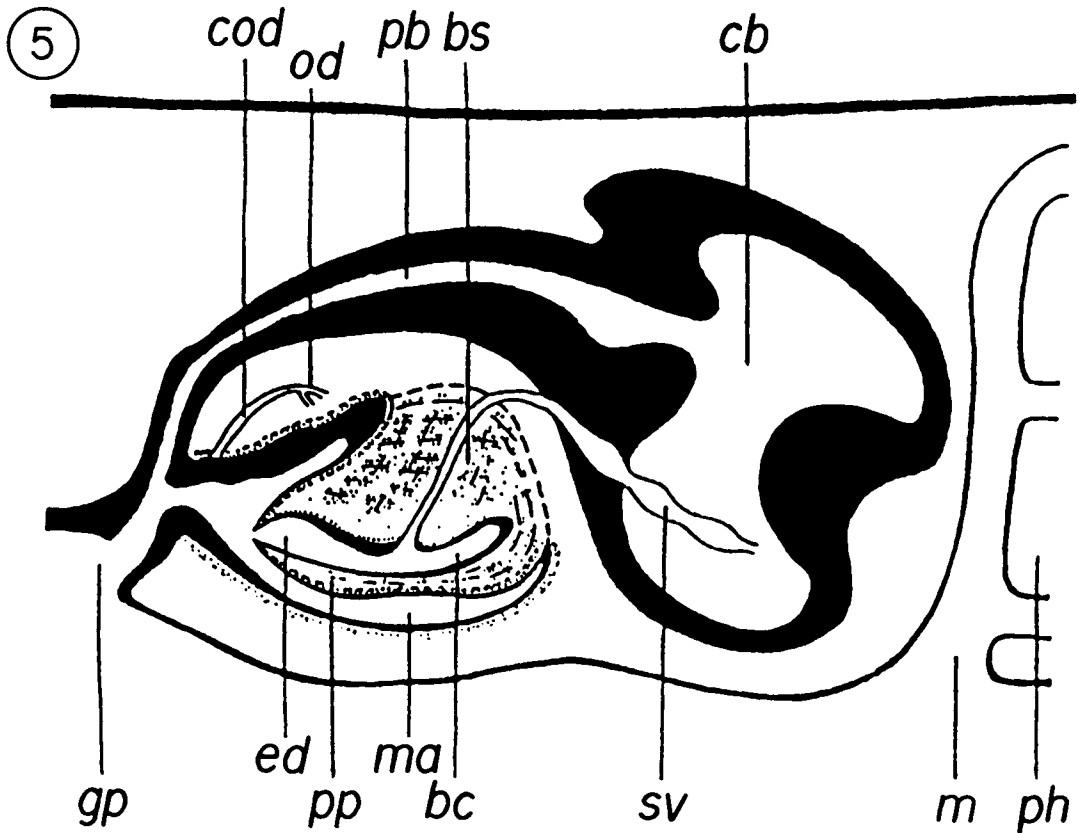


Fig. 6 (3).

Fig. 6 (on pp. 61-63). Diagrammatic figures of the copulatory apparatus of 5 *Polycelis* species from China (after LIU, 1993, 1994 and Preprint). Slightly retouched (abbreviations of the original figures were changed). ①, *Polycelis wutaishanica* LIU, 1993; ②, *Polycelis sinensis* LIU, 1993; ③, *Polycelis lhunzhubica* LIU, 1993; ④, *Polycelis nyingchica* LIU, 1993; ⑤, *Polycelis xigazensis* LIU, 1993. bc, bulbar cavity; bs, bursal stalk; cb, copulatory bursa; cm, circular muscle fibers; cod, common ovovitelline duct; ed, ejaculatory duct; gp, genital pore; m, mouth; ma, male genital antrum; od, ovovitelline duct; pb, penis bulb; ph, pharynx; pp, penis papilla; sv, spermiducal vesicle.

Fig. 5 (on p. 60). General views of sexually mature specimens of 5 *Polycelis* species from China (after LIU, 1993, 1994 and Preprint). Slightly retouched (abbreviations of the original figures were changed). ①, *Polycelis wutaishanica* LIU, 1993; ②, *Polycelis sinensis* LIU, 1993; ③, *Polycelis lhunzhubica* LIU, 1993; ④, *Polycelis nyingchica* LIU, 1993; ⑤, *Polycelis xigazensis* LIU, 1993.

IV. A REPLACEMENT NAME FOR *POLYCELIS TIBETICA* HYMAN, 1934

As was noted in the Section II of the present publication, a “corrected name” (literal translation of a Chinese term), “*Polycelis kashmirica* (HYMAN, 1934)” for *Polycelis tibetica* HYMAN, 1934, was presented by LIU (1993; see no. 34 article on pp. 181-182; see also a table and a map on pp. 162-163 of no. 30 article) (see Figs. 5 and 6). His Chinese term cited above may represent a nomen novum, or a new replacement name.

According to LIU (*op. cit.*), the reason for his taxonomic treatment is as follows: 1) *Sorocelis* sp. from Tibet (Terring Gompa and High Hill Gompa; alt. 4350-4400 m) reported by MEIXNER & MUS (1911) may be identical with *Polycelis xigazensis* LIU, 1993 (see the Section III of the present publication), and may not be a synonym of *Polycelis tibetica* HYMAN, 1934; 2) the localities of HYMAN’s species are in Kashmir, India (not in Tibet, *i.e.*, the Xizang Autonomous Region, China).

Mr. LIU’s treatment mentioned above clearly violates the Code and is an “Unallowable rejection”. Cf. ICZN (3rd ed.), Art. 23 (m). Nevertheless, according to Art. 23 (e), LIU’s (*op. cit.*) a proposed name is available as a replacement name for HYMAN’s 1934 species; the name of the author and the publishing year should be corrected.

Concerning the taxonomic positions of ZABUSOV’s (1911) *Sorocelis* species from Tibet and HYMAN’s (1934) *Polycelis* species from Kashmir, KENK (1953, p. 172) wrote: “Two species of the genus *Polycelis* are too incompletely known to permit their assignment to either the subgenus *Polycelis* or

XIZANG AUTONOMOUS REGION (=TIBET)

西藏多目涡虫种类分布图

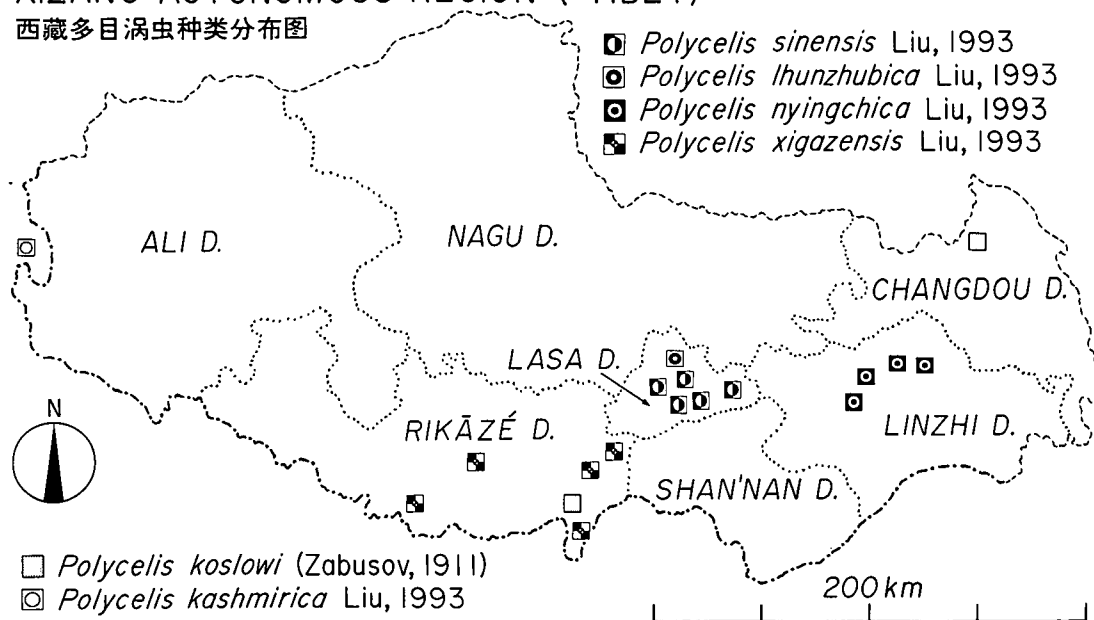


Fig. 7. Modified reproduction of LIU’s map (on p. 163) showing the distribution of *Polycelis* species from Xizang Autonomous Region (=Tibet) in China and Kashmir in India (symbols are changed). The data of *Polycelis koslowi* (ZABUSOV, 1911) in the Rikāzē District are added according to Fig. 3. The correct scientific names (authors’ names and publishing years) are used.

所谓“西藏多目涡虫 *Polycelis tibetica* Hyman, 1934”的种名应修正为克什米尔多目涡虫 *Polycelis kashmirica* (Hyman, 1934)

刘德增

二十世纪三十年代,美国一支印度北部远征考察队于克什米尔(Kashmir)境内的斯利那加(Srinagar),列城(Leh)和印度河上游的拉达克(Ladak)地区采集到一批淡水涡虫标本,由14个标本瓶(K64—K83和 L21—L25号)组成,转交给哈钦森(Hutchinson)先生检查,其中 K78号和 L25号中发现各有2只有性成熟标本,4只标本经切片鉴定,由美国著名的涡虫专家海曼博士(Hyman, 1934)将这种涡虫定名为“西藏多目涡虫,新种 *Polycelis tibetica* Hyman, 1934”。

产于克什米尔多目涡虫,为什么要定名为“西藏多目涡虫”?海曼的论文中这样写到:“查阅文献检索显示的事实,这种多目涡虫在这以前的文献中曾经提到过。1907年斯图尔特(Stewart)队长在采集西藏的水生动物考察中,这种多目涡虫曾被采得,该标本曾转给迈克斯内尔和穆特(Meixner und Muth),并于1911年发表了他们的报告。他们曾描述和图绘了该标本的外部特征,给予眼排列的几个图,并确定了它的 *Sorocelis* 属的地位。由于眼排列的多变,这两位作者倾向认为,该涡虫标本的组成不只是一个种。他们研究的标本采自西藏 Gyantse 上面的 Te—ring Gompa, 14000英尺和 High Hill Gompa, 14500英尺的小溪。同样类型标本被穆特(1912)又一次提到,并提出相似于他采集自咸海的多目涡虫 *Sorocelis eburnea*。由于缺少有性标本,迈克斯内尔和穆特没有提供一个西藏标本的生殖器官图”。海曼又说:“我的标本相同于迈克斯内尔和穆特的那些记录,这是合乎道理的确定。但是我不同意他们有关比一个种多的假定。不同标本中眼是稍微易变的,但是这些变化和年龄有关,因此作为种的差异的理由是不充分的。上面文献检索对我的研究是最好的帮助,但是这仅仅能构成西藏多目涡虫的记录。有性器官的研究揭示了这个种不同于多目属其它已知种,因此我考虑它属于一个新种,从它的产地考虑,我命名它为西藏多目涡虫 *Polycelis tibetica*”。同时该文中海曼博士将采自克什米尔所谓的西藏多目涡虫“*Polycelis tibetica* Hyman, 1934”与斯图尔特(1907)采自西藏的未定种 *Sorocelis* sp. Meixner und Muth, 1911, 两者当做同物异名(Synonym)。

著者根据1991年和1992年两次进藏亲自考察所收集的实际资料,以及参考“中国地名录”(国家测绘局测绘科学所,1983),“西藏自治区地名考”(中科院青藏考察队,1977),“西藏自治区概况”(西藏人民出版社,1984)等书记载的考证:充分可靠的事实证明,斯图尔特(Stewart, 1907)的多目涡虫无性标本采集自今天的西藏自治区江孜县内。江孜县城位于雅鲁藏布江支流年楚河中游北岸,北纬 28. 9°N,东经 89. 5°E,海拔 4020m,解放前是西藏地方政府江孜宗(Gyantse Dzong)的所在地(“宗”,藏语意为“城堡”),现在是江孜县(Gyangze Xian)的所在地。斯图尔特的无性标本采自江孜县(Gyantse)上面的德灵贡巴(Te—ring Gompa),海拔 4267m(14000英尺),和高山贡巴(High Hill Gompa),海拔 4420m(14500英尺),这是江孜县内的两座寺庙的旧名,“Gompa(贡巴)”即藏语中“寺庙”的意思。

著者两年中采集和鉴定了西藏5个地区29个县内的多目涡虫,已发现新种4个,其中根据日喀则

地区的江孜县,康马县,亚东县,拉孜县,定日县,聂拉木县和山南地区的浪卡子县一带的一种多目涡虫13只充分有性成熟模式标本,活体观察和切片鉴定为日喀则多目涡虫,新种 *Polycelis xigazensis* sp. nov.。该新种阴茎呈足状圆锥形,较大的交配囊前端有一个大的凹洼状结构等总体特征与多目涡虫属(*Polycelis*)30个已知种显著不同,与海曼(1934)的克什米尔(kashmir)多目涡虫“*Polycelis tibetica* Hyman, 1934”也显著不同(参看本书“西藏多目涡虫属二新种记述”一文)。

著者1991年首次进藏考察,对西藏29个县内的多目涡虫进行了活体观察和杀生固定,在野外对涡虫外形、大小、体色、眼数、以至墨汁着色法对前后肠的活体观察中,虽然看到地区的差异,但是各地涡虫的外部特征差异并不明显。根据涡虫种类分布的一般地区惯例,著者预想,西藏这样一个中国的局部地区,发现多个种多目涡虫的可能性不大。可是事实使我吃惊,实验室切片的观察,显示了这一局部地区多目涡虫形形色色的阴茎,交配囊和交配囊柄,因此急于第二次进藏仔细补充每一新种的外形和前后肠的活体观察,以及成熟固定标本和产地的补充,但是由于西藏境内路途的险阻和时间有限,也只能仅仅采集和鉴定了西藏少数地区和部份多目涡虫的种类及分布。著者预感,对于包括邻近国家在内的这一“世界屋脊”地区,多目涡虫种类的发现已经不少,但是我预计多目涡虫新种在这一地区还将会有更多的发现。由于西藏高原地势高峻,雪峰阻隔,山河纵横,泉溪繁多,造成涡虫种类多样的条件,著者仅仅在一个林周县内就采到林周多目涡虫(*Polycelis lhunzhubica*)和中华多目涡虫(*Polycelis sinensis*)两种外形差异不明显,而生殖器官完全不同的种类。从这一角度来观察“世界屋脊”地区,就可避免海曼(1934)认为斯图尔特(1907)西藏的种与克什米尔的种是同物异名;以及穆特(1912)认为斯图尔特(1907)西藏的种与他采自威海的 *Sorocelis eburnea* 两者相似的误解了。

综上所述,海曼博士的“西藏多目涡虫 *Polycelis tibetica* Hyman, 1934”仅仅采自中国西藏自治区境外的克什米尔(Kashmir)地区;斯图尔特(Stewart, 1907)和迈克斯内尔,穆特(Meixner und Muth, 1911)西藏江孜宗(Gyantse)的无性标本与日喀则多目涡虫(*Polycelis xigazensis* Liu, Sp. nov.)有共同的产地和相同的外形,应该是同一个种。根据“世界屋脊”地势高峻和高度隔离,以及西藏多目涡虫种类繁多的事实来考虑,海曼的克什米尔的种与斯图尔特江孜县的种无论如何不可能是相同的种。海曼以西藏江孜县的无性标本产地来命名自己克什米尔多目涡虫的种名不妥,著者有责任提出如下修正:

克什米尔所谓的“*Polycelis tibetica* Hyman, 1934”应当名符其实地更正为克什米尔多目涡虫——*Polycelis kashmirica* (Hyman, 1934)。

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Fig. 8 (pp. 65-66). Reproduction of LIU's Chinese article on a “corrected name” for *Polycelis tibetica* HYMAN, 1934 (on pp. 181-182). See the Section IV of the present paper.

Seidlia: *P. eudendrocoeloides* (SABUSSOWA, 1929) from the Kamchatky Peninsula and *P. tibetica* (ZABUSOV, 1911, p. 349) from Tibet (*P. tibetica* HYMAN, 1934, will have to be renamed if it should prove to be different from ZABUSOV's species)”. Taxonomic discussion of *Polycelis* species from Nepal and the vicinity was given in a Japanese paper by ICHIKAWA & KAWAKATSU (1964 a).

The taxonomic considerations mentioned above are shown in the following “Synonymies” of 2 *Polycelis* species.

Polycelis tibetica (ZABUSOV, 1911)

Sorocelis tibetica n. sp. Zabusov, 1911 : 349-350, taf. II, fig. 1 (DH, AE). Tibet (Xizang Autonomous Region) / China.

Polycelis tibetica : Kenk, 1953 : 172.

Polycelis? *tibetica* : Ichikawa & Kawakatsu, 1964 a : 29, fig. 3 B (DH).

Polycelis tibetica : Zabusova-Zudanova, 1970 : 169.

Polycelis tibetica : Kenk, 1974 : 57. Species inquirenda.

Note. [nec *Polycelis tibetica* Hyman, 1934].

Polycelis kashmirica LIU, 1993

Polycelis tibetica n. sp. Hyman, 1934 : 7-10, pls. I, figs. 1-8 (DB, DH, AE, FCA, HI), II, figs. 1-4 (FCA, HI). Kashmir / India.

Polycelis (Polycelis) tibetica : Kenk, 1953 : 172.

Polycelis koslowi tibetica : Porfirjeva, 1960 : 131. [nec *Polycelis koslowi* (Zabusov, 1911)].

Polycelis tibetica : Ichikawa & Kawakatsu, 1964 a : 29, fig. 3 C (DH).

Polycelis tibetica : Kenk, 1974 : 57. He wrote : "Possibly identical with *Polycelis tibetica* (Zabusov)".

Polycelis kashmirica : Liu, 1993 : 162-163.

Polycelis tibetica : Liu, 1993 : 181-182.

Polycelis kashmirica (nom. nov.) Liu, 1993 : 181-182.

Note. [nec *Sorocelis tibetica* Zabusov, 1911].

ADDENDA

After receiving Mr. LIU's recent publications used in the present bibliographic work, it became clear that several Chinese articles are lacking in KAWAKATSU's collection of literature on turbellarians. Accordingly, KAWAKATSU asked to Mr. LIU for several additional copies of articles listed in the "Contents" of his 1993 book (see Fig. 2). These copies arrived in the beginning of October, 1994, were used for the check of original Chinese titles of articles and names of Chinese journals and magazines cited in the present paper.

ADDENDUM I. LIU's 1992 Chinese Document.

KAWAKATSU has a bibliographic interest in four Chinese articles printed in LIU's 1993 book (see Fig. 2 ; nos. 29, 30, 31, and 35) because they were reproduced from his 1992 document entitled "Wōzhong Chengguo Jiāndingui, 1992" [Presentation of the new results of taxonomic studies on Chinese freshwater planarians, 1992]. Fortunately, its complete copy was included in the October mail received from Mr. LIU.

The 1992 document prepared by Mr. LIU (October 30, 1992) is a typewriting in Chinese with several figures and English abstracts (180 mm×257 mm, over 33 pages ; see Fig. 9, left). The following Chinese note is adding on the first page.

"[A Preliminary Research Report Submitted to the Committee of the Natural Science Foundation of China]" : [Freshwater Planarians of the Xizang, Qinghai and Xinjiang Regions in China —The Survey of Natural Resources and Taxonomic Studies, 1990-1992 (No. 38970125)]. The Zoology Section of the Chinese Science Academy, Peking : November 20, 1992.

According to Articles 7, 8 and 9 of the ICZN (3rd ed., 1985), the Chinese document mentioned above is not "a publication within the meaning of the Code".

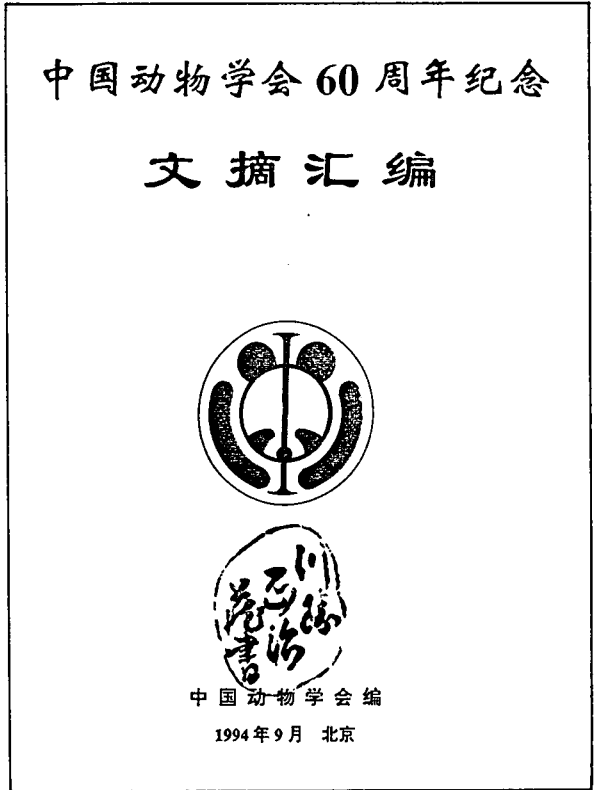
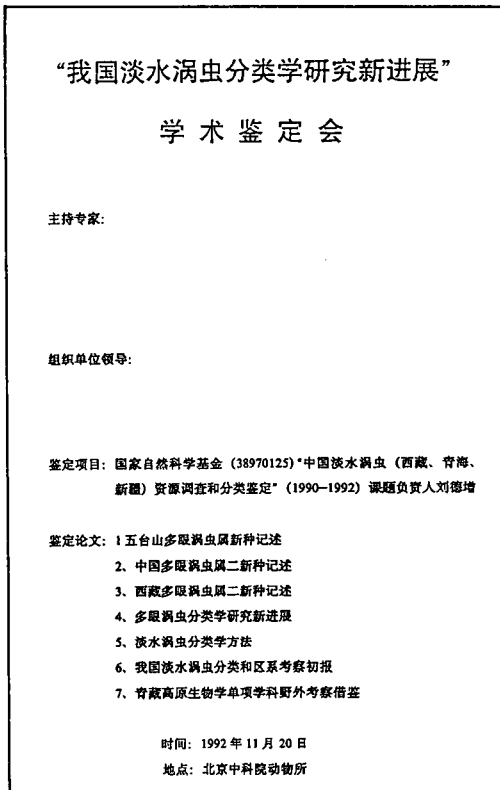


Fig. 9. Title pages of LIU's 1992 Chinese document (left, 180 mm×257 mm) and of the “Wénzhāi Hufbiān” published in 1994 (right, 180 mm×250 mm). See ADDENDUM II of the present publication.

Five new specific names of the genus *Polycelis* with abbreviations “sp. nov.” are found in the 1992 Chinese document. Three of them are different from LIU's new specific names described in his 1993 book; several misspellings of these specific names are also found in the document. Since it is not a published work (*i.e.*, MS.), all of new specific names found in the 1992 document are nomina nuda. Thus, misspellings of new specific names in the document do not considered as “multiple original spellings” (*cf.* ICZN, Arts. 19 (a) (ii), 32 (b) (i)). This is a reason that they are not listed in the synonymy lists of 5 *Polycelis* species in the Section III of the present paper. Only annotated explanations of LIU's 1992 document are given in this Addendum I. The document consists of the following sections in Chinese (see Fig. 9, left).

Title page.

Acknowledgements.

1) Notes on one new species of genus *Polycelis* from Wutaishan Mountain of China (Tricladida: Paludicola: Planariidae). Pp. 1-5+figs. 1-3 (DB, DH, AE, FCA; without pagination). (In Chinese, with English summary.)

Note. This is a MS. of a new species description in Chinese of *Polycelis wutaishanica* LIU, 1993.

Polycelis Wutaishanice (p. 2) and *Polycelis wataishanica* (p. 5) are misspellings.

2) Notes on two new species of genus *Polycelis* from China (Tricladida: Paludicola: Planariidae). Pp. 6-11+figs. 1-4 (DB, AE, HI, and FCA of 2 species; without pagination). (In Chinese, with English summary.)

Note. This is a MS. of new species descriptions in Chinese of *Polycelis sinensis* LIU, 1993, and *Polycelis linzhouensis* nom. nud. from the Xizang Region (Tibet), China.

Polycelis senensis (figure page) is a misspelling. *Polycelis linzhouensis* in this MS. is conspecific with *Polycelis lunzhubica* LIU, 1993.

3) Notes on two new species of genus *Polycelis* from Xizang (Tibet) (Tricladida : Paludicola : Planariidae). Pp. 12-17 +figs. 1-4 (DB, DH, AE, HI, and FCA of 2 species; without pagination). (In Chinese, with English summary.)

Note. This is a MS. of new species descriptions in Chinese of *Polycelis linzhica* nom. nud. and *Polycelis rikazica* nom. nud. from the Xizang Region (Tibet), China.

Polycelis linzhica in this MS. is conspecific with *Polycelis nyingchica* LIU, 1993. *Polycelis rikazica* in this MS. is conspecific with *Polycelis xigazensis* LIU, 1993.

4) [Recent progress of taxonomic study in the genus *Polycelis* (Tricladida)]. Pp. 18-21 +4 pages of figures (a distribution map of *Polycelis* species in the Xizang Autonomous Region; DB and FCA of 5 new *Polycelis* species from China, etc.; without pagination). (In Chinese.)

Note. This is a MS. of the no. 30 article published in LIU's 1993 book. Five nomina nuda of *Polycelis* species are listed: *Polycelis wutaishanica*, *Polycelis linzhica*, *Polycelis sinensis*, *Polycelis linzhouensis*, and *Polycelis rikazica*. Reduced figures of their body form, arrangement of eyes, copulatory apparatus, etc. are also added.

5) [Methods for the taxonomic study of freshwater planarians]. Pp. 22-23. (In Chinese.)

6) [Preliminary report on the taxonomy and distribution of freshwater planarians in China]. Pp. 24-28+a distribution map of freshwater planarians in China (without pagination). (In Chinese.)

Note. This is a MS. of the no. 29 article published in LIU's 1993 book. Five nomina nuda of *Polycelis* species are also given (see "Note" of MS. -Article 4).

7) [A consideration from field surveys of the highland area of Tibet (Xizang)]. Pp. 29-31. (In Chinese.)

Note. This is a MS. of the no. 35 article published in LIU's 1993 book.

References

ADDENDUM II. LIU's 1994 Additional Publications.

Since this manuscript went to the press, KAWAKATSU received copies of two Chinese publications in late October (LIU, 1994 b and c). Their publication data and KAWAKATSU's "Notes" are given here.

1) LIU, De-zeng, 1994 b. [Recent progress of taxonomic study of the genus *Polycelis* (Tricladida) in China]. In: [Abstracts of the Commemorative Meeting of the Sixtieth Anniversary of the China Zoological Society] (Wénzhāi Huǐbian), p. 118. Peking. Published in September, 1994. (In Chinese.) See Fig. 9 (right, title page, 180 mm × 250mm).

Note. Specific names of Mr. LIU's 5 *Polycelis* species described in his 1993 book are given in this abstract (abbreviation "sp. nov." is added for each species name). Each record added in synonymy list of species is given in the Section III of the present paper.

Four new specific names of the genus *Polycelis* were given in this Chinese publication with a locality description of each species. However, their specific characters are not included in this abstract. According to Article 13 of the ICZN (3rd ed., 1985), these new names are nomina nuda. Cf. Appendix E, General Recommendation, 23. They are as in the following.

Polycelis jinglensis nom. nud.: Liu, 1994 b: 118. Loc. Shanxi (Shanshi) Province / China.

Polycelis jingyuanica nom. nud. : Liu, 1994 b : 118. Loc. Zhùxia Autonomous Region / China.
Polycelis hamica nom. nud. : Liu, 1994 b : 118. Loc. Xinqiang Autonomous Region / China.
Polycelis delinghensis nom. nud. : Liu, 1994 b : 118. Loc. Qinghai Province / China.

2) LIU, De-zeng, 1994 c. On the taxonomy of Chinese Paludicola (Turbellaria). In: Proceedings of the Sixtieth Anniversary of the Founding of China Zoological Society, 1934-1994, pp. 543-548 +fig. 1 (without pagination). Zhongguo Kexue-Jighu Publ., Peking. Published in September, 1994. (In Chinese, with English summary.)

Note. Specific names of Mr. LIU's 5 *Polycelis* species described in his 1993 book are given. Each record added to the synonymy list of species is given in the Section III of the present paper.

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SUMMARY

Recently, 2 Chinese articles on turbellarian taxonomy were published by Prof. LIU: 1) Chinese Freshwater Turbellarians (December, 1993) and 2) Notes on two new species of the genus *Polycelis* from Xizang Autonomous Region, China (Tricladida: Plaludicola: Planariidae) (January, 1994). Taxonomic descriptions in Chinese of 5 new taxa and a new replacement name (nomen novum) found in these publications are partly contrary to the International Code of Zoological Nomenclature (3rd. ed., 1985). English explanations of these Chinese publications and pertinent rearrangements of LIU's new taxa and a new replacement name are given in the present paper.

1) The correct scientific names, author and the year of publication are as follows: *Polycelis wutaishanica* LIU, 1993; *Polycelis sinensis* LIU, 1993; *Polycelis lhunzhubica* LIU, 1993; *Polycelis nyingchica* LIU, 1993; *Polycelis xigazensis* LIU, 1993. They are members of the subgenus *Polycelis* EHRENBERG, 1831.

2) The correct scientific name, author and the year of publication of a replacement name for *Polycelis tibetica* HYMAN, 1934, is as follows: *Polycelis kashmirica* LIU, 1993. The species is a member of the subgenus *Polycelis* EHRENBERG, 1831.

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