

NOMENCLATRURAL NOTES ON SOME AMBIREGNAL GENERIC NAMES (COMMENTS TO ÖZDIKMEN, 2009)

Takashi Nakada*

* Institute for Advanced Biosciences, Keio University, 246-2 Mizukami, Kakuganji, Tsuruoka, Yamagata 997-0052, JAPAN. Graduate School of Media and Governance, Keio University, Fujisawa 252-8520, JAPAN. E-mail: naktak@ttck.keio.ac.jp

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ABSTRACT: Nomenclatural notes on some ambiregnal generic names (comments to Özdikmen, 2009) are given in the text with a single new substitute name: *Pyrrhotriadinium* nom. nov. pro *Triadinium* Dodge, 1981.

KEY WORDS: Nomenclature, ambiregnal generic names.

Özdikmen (2009) surveyed invalid names among Protozoa, and detected forty-eight junior homonyms under International Code of Zoological Nomenclature (ICZN). He proposed substitute names for them under ICZN. Among the forty-eight junior homonyms, twelve generic names were names of Phytomastigophorea, and two were of Euglenoidea or Euglenida. Because these taxa have been studied by both zoologist and botanists, their names are covered by both ICZN and International Code of Botanical Nomenclature (ICBN). The nomenclatural changes of such “ambiregnal” taxa should be performed with attention to names published under both ICZN and ICBN to avoid unnecessary nomenclatural confusions, and I reviewed the nomenclatural status of these fourteen names under ICBN (summarized in Table 1).

Except for *Goniodoma* Stein, *Normandia* Zügel and *Dinema* Perty, all the ambiregnal names are not “later homonyms” under ICBN (ICBN use the term “later homonym” for “junior homonym”), and the eleven generic names are still “legitimate” (equivalent to “available”) under ICBN. *Goniodoma* Stein, *Normandia* Zügel and *Dinema* Perty were later homonyms under ICBN, and I considered the nomenclatural status of substitute names proposed by Özdikmen (2009), *Yesevius* Özdikmen, *Zugelia* Özdikmen and *Elifa* Özdikmen. In addition, a new substitute name is needed for *Triadinium* Dodge, which Özdikmen (2009) treated as a synonym of *Goniodoma*.

TAXONOMY

1. *Heteraulacus* Diesing, *Goniodoma* Stein and *Yesevius* Özdikmen (Dinoflagellida / Dinophyceae)

Before Stein (1883) established *Goniodoma* Stein, Diesing (1850) established a genus *Heteraulacus* Diesing and including *Heteraulacus acuminatus* (Ehrenberg), *H. adriaticus* (Schmarda), *H. fuscus* (Ehrenberg) and *H. monas* (Ehrenberg). Although the former species was the type species of *Goniodoma* Stein as *Goniodoma acuminatum* (Ehrenberg), Loeblich Jr & Loeblich III (1966) designated *H. acuminatus* as type of *Heteraulacus*, and the genus *Goniodoma* Stein became a junior objective (later homotypic) synonym of *Heteraulacus*. Therefore, the proposal of a substitute name *Yesevius* Özdikmen for *Goniodoma*

(Özdikmen, 2009) is invalid (or illegitimate) as an unnecessary junior objective (later homotypic) synonym of *Heteraulacus* Diesing under both ICZN and ICBN.

ICZN / ICBN

Heteraulacus Diesing, 1850. *Systema Helminthum*, 1. 100.

Type species: *Heteraulacus acuminatus* (Ehrenberg, 1835) based on *Peridinium acuminatum* Ehrenberg, 1835.

Synonyms: *Peridinium* Ehrenberg, 1830 (in part); *Goniodoma* Stein, 1883. (non Zeller, 1849); *Yesevius* Özdikmen, 2009.

2. *Triadinium* Dodge and *Pyrrhotriadinium* Nakada nom. nov. (Dinoflagellida / Dinophyceae)

"Goniodoma" acuminatum was often treated as a senior (earlier) synonym of *"Goniodoma" polyedricum* (Porchet, 1883). However, Dodge (1981) pointed out that they were not synonymous and the organism often assigned to *"Goniodoma" acuminatum* was indeed *"Goniodoma" polyedricum*. According to Dodge (1981), this species does not belong to *Heteraulacus*, and he established a new genus *Triadinium* Dodge with *Triadinium polyedricum* (Porchet) as type. Although *Triadinium polyedricum* is correct name for the species under ICBN, the generic name *"Triadinium"* was preoccupied by a ciliate genus *Triadinium* Fiorentini, 1890, and invalid under ICZN. Therefore, a substitute name for *Triadinium* Dodge under ICZN is here proposed.

ICZN

Pyrrhotriadinium Nakada, nom. nov.

pro *Triadinium* Dodge, 1981. Br. Phycol. J. 16. 278. (non Fiorentini, 1890).

Type species: *Pyrrhotriadinium polyedricum* (Pouchet, 1883) comb. nov. based on *Peridinium polyedricum* Pouchet, 1883.

Synonyms: *Peridinium* Ehrenberg, 1830 (in part); *Heteraulacus* Diesing, 1850 (in part); *Goniodoma* Stein, 1883 (in part; non Zeller, 1849).

Etymology: from the Greek prefix "pyrrho-" (meaning fire-red, flame-coloured) indicating the affiliation to Dinoflagellida (Pyrrhophyta) and the preexisting generic name *Triadinium*.

In addition, new combinations are proposed. Note that a substitute name for *Triadiniidae* Dodge (or *Goniodomidae*) is currently unnecessary, because this taxon may be classified in a family with available name (e.g. *Pyrophacidae* = *Pyrophacaceae*, *Ostreopsidae* = *Ostreopsidaceae*; see also Fensome et al., 1993; Dodge & Lee, 2000).

Pyrrhotriadinium polyedricum (Porchet, 1883) comb. nov.

Basionym: *Peridinium polyedricum* Pouchet, 1883. J. Anat. Physiol., Paris. 19. 440. pl. 20, fig. 34.

Synonyms: *Goniodoma polyedricum* (Pouchet, 1883); *Heteraulacus polyedricus* (Pouchet, 1883).

Pyrrhotriadinium sphaericum (Murray & Whitting, 1899) comb. nov.

Basionym: *Goniodoma sphaericum* Murray & Whitting, 1899. Trans. Linn. Soc. London Bot. Ser. 2. 5. 325. pl. 27, fig. 3.

Synonym: *Heteraulacus sphaericum* (Murray & Whitting, 1899).

ICBN

Triadinium Dodge, 1981. Br. Phycol. J. 16. 278.Type species: *Triadinium polyedricum* (Pouchet, 1883) based on *Peridinium polyedricum* Pouchet, 1883.Synonyms: *Peridinium* Ehrenberg, 1830 (in part); *Heteraulacus* Diesing, 1850 (in part); *Goniodoma* Stein, 1883 (in part); *Pyrrhotriadinium* Nakada nom. nov..**3. *Normandia* Zügel and *Zugelia* Özdikmen (Dinoflagellida / Dinophyceae)***Normandia* Zügel, 1994 was published as a generic name of fossil dinoflagellates, but the generic name was preoccupied by *Normandia* Pic, 1900 under ICZN and by *Normandia* Hooker, 1872 under ICBN. Therefore, the substitute name *Zugelia* Özdikmen under ICZN is also correct under ICBN.

ICZN / ICBN

Zugelia Özdikmen, 2009. Mun. Ent. Zool. 4. 237.Type species: *Zugelia circumperforata* (Zügel, 1994) based on *Normandia circumperforata* Zügel, 1994.Synonym: *Normandia* Zügel, 1994 (non Pic, 1900; non Hooker, 1872).**4. *Elifa* Özdikmen, *Dinema* Perty and *Dinematomonas* Silva (Euglenoidea / Euglenophyceae).***Dinema* Perty, 1852 was published as a generic name of euglenids, but the generic name was preoccupied by *Dinema* Fairmaire, 1849 under ICZN and by *Dinema* Lindley, 1831 under ICBN. Silva (1960) published a substitute (replacement) name *Dinematomonas* Silva, and this name is available under ICZN (and valid under ICBN). Therefore, the proposal of a substitute name, *Elifa* Özdikmen, for *Dinema* Perty (Özdikmen, 2009) is invalid (or illegitimate) as an unnecessary junior objective (later homotypic) synonym of *Dinematomonas* Silva under both ICZN and ICBN.

ICZN / ICBN

Dinematomonas Silva, 1960. Taxon, 9. 20.Type species: *Dinematomonas griseola* (Perty, 1852) based on *Dinema griseola* Perty, 1852.Synonym: *Dinema* Perty, 1852 (non Fairmaire, 1849; non Lindley, 1831); *Elifa* Özdikmen, 2009.**CONCLUDING REMARKS**

Proposals of substitute (replacement) names for invalid (or illegitimate) names are important tasks in the taxonomy. Although a zoologist often pays attention only to ICZN and botanist only to ICBN, it is important to survey synonymy and/or homonymy under both ICZN and ICBN in dealing with ambiregnal taxa, such as phytoflagellates, zoosporic fungi, slime molds etc.

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Table 1. Comparisons of valid and correct generic names of ambiregnal taxa treated by Özdikmen (2009). Names discussed in the text are shown with bold face.

	Substitute name by Özdikmen (2009)	Valid name under ICZN	Correct name under ICBN
<i>Durotrigia</i>	<i>Baileyella</i>	<i>Baileyella</i>	<i>Durotrigia</i>
<i>Edwardsiella</i>	<i>Novedwardsiella</i>	<i>Novedwardsiella</i>	<i>Edwardsiella</i>
<i>Fentonia</i>	<i>Neofentonia</i>	<i>Neofentonia</i>	<i>Fentonia</i>
<i>Gippslandia</i>	<i>Neogippslandia</i>	<i>Neogippslandia</i>	<i>Gippslandia</i>
<i>Goniodoma</i>	<i>Yesevius</i>	<i>Heteraulacus / Pyrrhotriadinium</i>	<i>Heteraulacus / Triadinium</i>
<i>Hannaites</i>	<i>Akbuluta</i>	<i>Akbuluta</i>	<i>Hannaites</i>
<i>Hanusia</i>	<i>Phia</i>	<i>Phia</i>	<i>Hanusia</i>
<i>Herdmania</i>	<i>Dodgeia</i>	<i>Dodgeia</i>	<i>Herdmania</i>
<i>Lundiella</i>	<i>Yildizia</i>	<i>Yildizia</i>	<i>Lundiella</i>
<i>Normandia</i>	<i>Zugelia</i>	<i>Zugelia</i>	<i>Zugelia</i>
<i>Suessia</i>	<i>Baserus</i>	<i>Baserus</i>	<i>Suessia</i>
<i>Wanneria</i>	<i>Belowius</i>	<i>Belowius</i>	<i>Wanneria</i>
<i>Dinema</i>	<i>Elifa</i>	<i>Dinematomonas</i>	<i>Dinematomonas</i>
<i>Metanema</i>	<i>Semihia</i>	<i>Semihia</i>	<i>Metanema</i>