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94. Supplementary Notes on the Agnostida

By

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Since the manuscript on my study of the Agnostida¹⁾ was finished, several new genera and species have been established. Besides some were overlooked for the reason that either I was not able to have access to their publication during the preparation of the paper or the species was referred to the non-agnostidian genus. Therefore comments on them are compiled in this paper.

1) The congenity of *Agnostus bonnerensis* RESSER, 1938 (Smiths. Misc. Coll. vol. 97, no. 3 p. 6, pl. 1, figs. 16-17) from the Middle Cambrian Lakeview limestone of Idaho with *Peronopsis montis*, as suggested by RESSER himself, forces the change of its generic position from *Agnostus* to *Peronopsis*. *Agnostus brighamensis* RESSER (Smiths. Misc. Coll. vol. 97, no. 12 p. 8, pl. 2, figs. 27-29) from the Middle Cambrian formation of Utah is another *Peronopsis*. Incidentally a round cranidium in fig. 1 on pl. 2 in the latter paper looks to me to belong to *Peronopsis* or some other genus of the Peronopsinae, instead of *Vistoia* (?) *minuta* as supposed by RESSER, insofar as can be judged from its illustration in which a narrow marginal rim, bilobed glabella and a pair of triangular basal side-lobes are clearly shown. According to RESSER, the illustration of *Agnostus bidens* by WALCOTT, non MEEK, is incorrectly drawn and in fact, its axis of pygidium is much shorter. RESSER established *Agnostus yellowstonensis* (nov.) (Smiths. Misc. Coll. vol. 97, no. 10, 1938, p. 26) for this form from the Upper Cambrian Dry Creek formation of Wyoming. The absence of the preglabellar axial furrow and the short axial lobe of the pygidium suggest *Micragnostus* or its adjacence for its proper position.

2) Several new genera and many new species were established by RESSER (Geol. Soc. Am. Sp. Pap. No. 15, 1938) for the agnostids obtained from the Appalachian mountains and they are as follows:

Acmarrhachis typicalis RESSER (Upper Cambrian Nolichucky)

Proagnostus maryvillensis RESSER (Middle Cambrian Maryville)

Proagnostus major RESSER (Upper Cambrian Nolichucky)

1) T. KOBAYASHI: On the Agnostids (Part I) Journ. Fac. Sci., Imp. Univ. Tokyo, Sec. II, Vol. 5, Pt. 5, 1939.

- Proagnostus? centrensis* RESSER (Middle Cambrian Conasauga)
Glyptagnostus angelini RESSER (Upper Cambrian Nolichucky)
Kormagnostus simplex RESSER (Upper Cambrian Nolichucky)
Kormagnostus speciosus RESSER (Upper Cambrian Nolichucky)
Kormagnostus harlanensis RESSER (Upper Cambrian Nolichucky)
Oeiorhachis typicalis RESSER (Upper Cambrian Nolichucky)
Oedorhachis ulrichi RESSER (Upper Cambrian Nolichucky)
Oedorhachis bolteneis RESSER (Upper Cambrian Nolichucky)
Oedorhachis tennesseensis RESSER (Upper Cambrian Nolichucky)
Oedorhachis mesleri RESSER (Upper Cambrian Nolichucky)
Oedorhachis greendalensis RESSER (Upper Cambrian Nolichucky)
Acmarrhachis RESSER (Type: *A. typicalis*)
Kormagnostus RESSER (Type: *K. simplex*)
Oedorhachis RESSER (Type: *O. typicalis*)
Toniorhachis RESSER (Type: *T. spinosa*)

The last mentioned genus is represented by a solitary pygidium which coincides with *Clavagnostus repandus* in most respects except the posterior pygidium which is slightly longer in *spinosa*, the difference, however, being no more than of specific value for Agnostidian classification.

Proagnostus BUTTS to which several species are referred includes homagnostids with the axial furrow dying out in the preglabellar field almost completely. As there is every different gradation in the expansion of the posterior axial lobe as well as in the obsolescence of preglabellar furrows, these characteristics serve no more than to make subgeneric distinction within *Homagnostus*. Among the species referred to *Oedorhachis* *O. bolteneis* may be an exception which insofar as can be judged from the trilobed glabella provided with a median tubercle and the unusually expanded posterior axial lobe of the pygidium, looks to me to be more likely a *Pseudagnostus* than a *Homagnostus*.

Kormagnostus and *Acmarrhachis*, on the other hand, are genera better qualified. The former resembles *Homagnostus*, especially *Oedorhachis*, but the anterior glabellar lobe is perfectly effaced. Therefore, this may be a member of the Agnostidae which lies parallel to the Spinagnostinae of the Peronopsidae. *Acmarrhachis* is a homagnostid genus with a long trilobed pygidial axis which is sharply pointed behind. Among *Peronopsis* (?) *latimarginalis*, *Glyptagnostus* "*reticulatus*", *Pseudagnostus latus*, *Agnostus inextectans* and *Homagnostus acutus* from the Upper Cambrian of British Columbia which I have described (KOBAYASHI, Japan. Jour. Geol. Geogr. vol. 15, 1938) the last one may be referred to *Acmarrhachis* in *Homagnostus*. As noticed in my paper, the pointed hind of the pygidial axis is the most significant characteristic through which it can readily be distinguished from most of *Homagnostus*. On the other hand, *bonnerensis* and *brighamensis* tend to link *Acmarrhachis* to *Homagnostus*. HOWELL and DUNCAN described *Homagnostus* (?) *lochmanae* from the earliest Upper Cambrian Park formation in Montana. (Bull. Wagner Free Inst. Sci., vol. 14, no. 1, p. 8, figs. 7-9) The axial furrow in the preglabellar field is almost obsolete in it.

3) WHITEHOUSE (Mem. Queensland Mus., vol. 11, pt. 3, 1938) added nine species to the Australian agnostidian fauna as follows:

<i>Agnostus seminula</i> WHITEHOUSE	<i>Euagnostus</i> sp.
<i>Ceratagnostus magister</i> WHITEHOUSE	<i>Homagnostus obesus</i> (BELT)
<i>Goniagnostus purus</i> WHITEHOUSE	<i>Phalacrom</i> cf. <i>nudum</i> (BEYRICH)
<i>Goniagnostus</i> cfr. <i>nathorsti</i> (BRÖGGER)	<i>Hypsagnostus clipeus</i> WHITEHOUSE
<i>Goniagnostus scaraboeus</i> WHITEHOUSE	

Ceratagnostus is a new genus and *C. magister* is its type. Besides, it includes *Agnostus incertus* for which *Doryagnostus* was established independently by myself. Therefore the former genus dated the 17th of March, 1939 ought to be synonymous with the latter dated the 7th of March, 1939, according to the rule of nomenclature.

4) HARRISON (Revista del Museo de las Plata (N. Ser.) Tom. 1, Sect. Pal., 1939) established *Pseudoperonopsis* for *Agnostus sallesi* MUNIER CHALMAS et BERGERON and *Trilobagnostus* for *Agnostus innocens* CLARK. The latter genus designated the stage of development in which the median ridge is not extended as far as to the posterior axial lobe of the pygidium, the former assigns the group of *Peronopsis* whose axis of pygidium does not attain as far back as to the posterior brim. *Pseudoperonopsis* is a subgenus of *Peronopsis* while *Trilobagnostus* is that of *Lotagnostus*. Through this paper he added *Geragnostus* 2 spp. indet., *Trinodus jujuyensis* HARRISON and *Gallagnostus dubius* HARRISON to the Agnostidian fauna of South America.

5) RESSER and ENDO (Manchurian Sci. Mus. Bull. 1, 1937) described six new species of *Agnostus* i. e. *damesi*, *viator*, *ozaki*, *liaotungensis*, *cerves* and *egenies* from the Middle Cambrian Mapan formation of Manchuria among which *damesi* is an old representative of *Agnostus* if the combination of detached cephalon and pygidium is correct. It is especially interesting to see that the associate pygidium shows all of the characteristics of *Peronopsis rakuroensis* group to which the remaining species belong. The discussion of the specific identification of the Eastern Asiatic species is deferred to some other occasion.

6) A cephalon of *Agnostus* cfr. *agnostiformis* (M'Coy) was found associated with *Encrinurus*, orthids and cystids at a point WSW of the bridge over the Nam Wabya in the Southern Shan States, Burma (F. R. COWPER REED, 1936, Palaeontol. Indica, New Ser. Vol. 21, Mem. No. 3, p. 54, pl. 6, fig. 10). So far as I can judge from its illustration, it is typical of *Trinodus*. Although REED identified it with *Agnostus* cfr. *glabratus* from the Northern Shan State which I had named *Trinodus reedi*, they are different in the outline of glabella which is cylindrical in it and more or less conical in *reedi*.

7) *Aeglina boia* HICKS and *Agnostus hirindo* SALTER by HICKS from the Middle Arenig of St. David's had escaped my attention (HICKS, Q. J. G. S. London vol. 31, 1875). The latter, insofar as the pygidium tells its taxonomic position, lies within the bounds of *Geragnostus* (*Micragnostus*). The former is a smooth agnostid having a narrow brim on each shield of similar outline and apparently of low

convexity. This agrees with *Gallagnostus* in most respects but the thoracic axis is much shorter than usual. The fact that the form with narrow axis appears later than the other with the broad axis is strong evidence showing that similar obsolete forms were derived at different intervals from different points of the Agnostida. *Gallagnostoides* nov. is established for this species. It can readily be distinguished from *Gallagnostus* with reference to the breadth of the thoracic axis which occupies a little more than one-third of the thorax while it corresponds to about two-thirds in *Gallagnostus*.

アグノスタス類研究補遺 (摘要)

小林 貞 一

拙論 On the Agnostida の稿を終て後に發表せられたる新屬新種を列舉して、之に關する私見を述ぶ。*Toniorhachis* は *Clavagnostus* の亞屬, *Proagnostus*, *Oedorhachis*, *Acmarrhachis*, は *Homagnostus* の亞屬, *Pseudoperonopsis* は *Peronopsis* の亞屬, *Trilobatagnostus* は *Lotagnostus* の亞屬なる可し。*Kormagnostus* の Agnostidae に於けるは *Spinagnostus* の Peronospsidae に於ける關係をなす。*Ceratagnostus* は *Doryagnostus* の同物異稱なり。*Aeglina boia* を基本種として *Gallagnostoides* を樹立す。