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IX.—*The Foraminifera of the Gault of Folkestone.*—VII.

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PLATES IX. AND X.

Sub-family NODOSARIINÆ—continued.

CRISTELLARIA Lamarck [1816].

Cristellaria linearis Reuss, plate IX. fig. 1 *a*, *b*.

C. linearis Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 66, plate xii. fig. 1 *a*, *b*.

This species has an elongate test, with a slightly incurved commencement; the chambers are rounded in front, and in the later growth well inflated. The back of the shell is somewhat compressed

EXPLANATION OF PLATES.

PLATE IX.

Fig. 1 *a*, *b*.—*Cristellaria linearis* Reuss: *a*, lateral aspect; *b*, face of the last chamber. × 45.
„ 2 *a*, *b*.—*C. striata* sp. nov.: *a*, lateral aspect; *b*, face of the last chamber. × 60.
„ 3 *a*, *b*.—*C. exilis* Reuss: *a*, lateral aspect; *b*, face of the last chamber. × 60.
„ 4 *a b*.—*C. exilis* var. *crispata* nov.: *a*, lateral aspect; *b*, face of the last chamber. × 60.
„ 5 *a*, *b*.—*C. parallela* Reuss: *a*, lateral aspect; *b*, face of the last chamber. × 60.
„ 6 *a*, *b*.—*C. cymboides* d'Orbigny: *a*, lateral aspect; *b*, face of the last chamber. × 30.
„ 7 *a*, *b*.—*C. humilis* Reuss: *a*, lateral aspect; *b*, face of the last chamber. × 45.
„ 8 *a*, *b*.—*C. crepidula* Fichtel and Moll sp.: *a*, lateral aspect; *b*, front peripheral aspect. × 30.
„ 9 *a*, *b*.—*C. Schloenbachi* Reuss: *a*, lateral aspect; *b*, face of the last chamber. × 60.
„ 10.— *C. costulata* sp. nov.: lateral aspect. × 60.
„ 11 *a*, *b*.—*C. gladius* Philippi sp.: *a*, lateral aspect; *b*, face of the last chamber. × 30.

into a blunt keel; this character, together with the incipient spiral commencement, demonstrates its affinity with the Cristellarians.

C. linearis was found by Reuss in the "Speeton clay" of North Germany.

Found in the Gault at Folkestone in zone xi., 45 ft. from the top, rare; 40 ft., very rare.

Cristellaria striata sp. nov., plate IX. fig. 2 *a*, *b*.

Test elongate, slightly incurved; the first few chambers form an open spiral, but the shell soon becomes straight. The later chambers are well inflated, and their sutural lines strongly impressed. The larger of the specimens found has nine chambers. Surface of the test decorated with a few longitudinal or oblique striæ. Aperture marginal and produced into a short neck. Length of the larger specimen 1/45 in.

This species was found in the Gault of Folkestone in zone iii., very rare; zone xi., 45 ft. from the top, very rare.

PLATE IX. (*continued*).

Fig. 12 *a*, *b*.—*C. Bronni* Römer sp.: *a*, lateral aspect; *b*, face of the last chamber × 30.
„ 13 *a*, *b*.—*C. Bronni* Römer sp.: (another specimen) *a*, lateral aspect; *b*, face of the last chamber. × 50.
„ 14 *a*, *b*.—*C. lituola* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.

PLATE X.

Fig. 1.—*Cristellaria navicula* d'Orbigny: lateral aspect. × 60.
„ 2 *a*, *b*.—*C. sulcifera* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 3 *a*, *b*.—*C. triangularis* d'Orbigny: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 4 *a*, *b*.—*C. trunculata* Berthelin: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 5 *a*, *b*.—*C. oligostegia* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 6 *a*, *b*.—*C. tripleura* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 7 *a*, *b*.—*C. scitula* Berthelin: *a*, lateral aspect; *b*, front peripheral aspect. × 45.
„ 8 *a*, *b*.—*C. latifrons* Brady: *a*, lateral aspect; *b*, front peripheral aspect. × 30.
„ 9 *a*, *b*.—*C. Bononiensis* Berthelin: *a*, lateral aspect; *b*, front aspect. × 60.
„ 10 *a*, *b*.—*C. Italica* Defrance sp.: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 11 *a*, *b*.—*C. vestita* Berthelin: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 12 *a*, *b*.—*C. complanata* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 13 *a*, *b*.—*C. Bradyana* sp. nov.: *a*, lateral aspect; *b*, front peripheral aspect. × 60.
„ 14 *a*, *b*.—*C. planiuscula* Reuss: *a*, lateral aspect; *b*, front peripheral aspect. × 60.

Cristellaria exilis Reuss, plate IX. fig. 3 *a*, *b*.

C. exilis Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. pp. 66 and 92, plate vi. fig. 19 *a*, *b*.

This species has been recorded from the Upper Hils formation near Brunswick (Reuss); and from the Gault of Folkestone (Reuss, and by Rupert Jones in Topley's 'Weald Memoir'). From the Gault of France (Berthelin).

In the specimen from Folkestone, here figured, the chambers are somewhat irregular, but the outline of the test is typical.

C. exilis was found at Folkestone in zone iv., very rare; zone xi., 35 ft. from the top, rare; 12 ft., very rare.

Cristellaria exilis var. *crispata* nov., plate IX. fig. 4 *a*, *b*.

Test elongate, arched; commencing in an open spiral, somewhat hook-shaped, formed by the first four chambers, which are compressed and low. The chambers rapidly increase in size and height, and the later ones are inflated. The younger half of the test is decorated with a few interrupted longitudinal or oblique striations, which towards the inner side of the test run on to the last segment. The outer or dorsal edge of the shell is compressed into a blunt keel. Inner edge with a sinuous outline. Aperture marginal and produced. Length of test 1/36 in.

Found in zone i., specimen *b*, one example.

Cristellaria parallela Reuss, plate IX. fig. 5 *a*, *b*.

C. parallela Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 67, plate vii. figs. 1, 2.

Reuss records this species from the Upper Hils clay of North Germany. It has also been obtained from the Gault of France (Berthelin); and was lately found in the Bargate beds of Neocomian age, at Littleton in Surrey (author's MS.).

Found at Folkestone in zone iii., rare; zone v., very rare.

Cristellaria cymboides d'Orbigny, plate IX. fig. 6 *a*, *b*.

C. cymboides d'Orbigny, 1846, Foram. Foss. Vien., p. 85, plate iii. figs. 30, 31. *C. cymboides*, 1890, Burrows, Sherborn and Bailey, Journ. Roy. Micr. Soc., p. 560, plate xi. fig. 6.

The Gault specimens are strikingly similar to that figured from the Red Chalk of Speeton by Burrows, Sherborn and Bailey *C. cymboides* has also been recorded from beds of Tertiary age in Austria (d'Orbigny) and Hungary (von Hantken).

Found in the Folkestone Gault in zone viii., very rare; zone xi., 12 ft. from the top, very rare.

Cristellaria humilis Reuss, plate IX. fig. 7 *a*, *b*.

C. humilis Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 65, plate vi. figs, 16, 17.

This species varies in the relative width of the test, but it is easily recognized by the gentle curving of the shell, the numerous chambers, and the shelly thickening of the sutural lines.

C. humilis was found by Reuss in various beds of the Hils formation in North Germany.

Found at Folkestone in zone i., specimen *b*, very rare; zone ii., specimen *b*, very rare; zone xi., 50 ft. from the top, rare.

Cristellaria crepidula Fichtel and Moll sp., plate IX. fig. 8 *a*, *b*.

Nautilus crepidula Fichtel and Moll, 1803, Test. Micr., p. 107, plate xix. figs. *g–i*. *Cristellaria crepidula* d'Orbigny, 1839, Foram. Cuba, p. 64, plate viii. figs. 17, 18. *C. lævigata* Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 92, plate xii. fig. 14. *C. Fittoni* Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i. No. 5, p. 49. *C. crepidula* Brady, 1884, Chall. Rep., vol. ix. p. 542, plate lxvii. figs. 17, 19, 20; plate lxviii. figs. 1, 2.

This species occurs in nearly all assemblages of Foraminifera from the Lias upwards. It was recorded by Reuss from the Gault of Folkestone under the name of *C. lævigata*. Reuss' name of *C. lævigata* was subsequently changed to *C. Fittoni* by M. Berthelin in his study of the French Gault, for the reason that the specific name *lævigata* had been previously used by d'Orbigny in 1826 for another type of *Cristellaria*. There is, however, no apparent cause for separating the Gault examples from the well-known species *C. crepidula*, for indeed, among the numerous varieties of *Cristellariæ* bearing a general resemblance to the typical *C. crepidula* of Fichtel and Moll, this species here figured is the nearest, agreeing most minutely in all points with the type. *C. Fittoni* was recorded from the Gault of Montcley (Berthelin).

C. crepidula has also been recorded from the Red Chalk of Speeton by Burrows, Sherborn and Bailey.* I am inclined to think, however, that their specimens more properly belong to *C. complanata* Reuss, since the sides of the tests are flat instead of gently convex as in the typical *C. crepidula*, and the commencing spiral more outspread.

C. crepidula has also occurred in the Neocomian beds of Littleton in Surrey (author's MS.). It was found in the Gault of Folkestone in zone i., specimen *b*, very rare; zone ii., specimen *a*, very rare; zone xi., 6 ft. from the top, rare.

* Journ. Roy. Micr. Soc., 1890, p. 560, pl. ix. figs. 3, 4.

Cristellaria Schloenbachi Reuss, plate IX. fig. 9 *a*, *b*.

C. Schloenbuchi Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 65, plate vi. figs. 14, 15. *C. Schloenbachi* Brady, 1884, Chall. Rep., vol. ix. p. 539, plate lxvii. fig. 7.

Reuss describes this species from the Upper Hilsthon and the "Speeton clay" of North Germany, and it has also occurred in beds of Neocomian age at Littleton in Surrey (author's MS.). Dr. Brady has figured *C. Schloenbachi* as a recent form, and records it from deep-sea deposits of intertropical areas from depths of 155 to 435 fathoms.

Found at Folkestone in zone i., specimen *b*, rare; zone x., very rare; zone xi., 55 ft. from the top, very rare; 25 ft., very rare; 12 ft., very rare.

Cristellaria costulata sp. nov., plate IX. fig. 10.

Test elongate, commencing with a compressed incipient spiral; the chambers increase rapidly in size and become turgid. The surface of the test is relieved with more or less strong costulæ, somewhat interrupted, and sometimes oblique. Aperture marginal and produced. The general outline of the test resembles that of *C. Schloenbachi* Reuss. Length of figured specimen, 1/42 in.

It is just possible that this form may be a Cristellarian modification of a species like *Marginulina Jonesi*, or another of the allied costate forms.

The original type specimen was unfortunately lost after the drawing was made.

C. costulata was found in zone v., very rare; zone ix., very rare.

Cristellaria gladius Philippi sp., plate IX. fig. 11, *a*, *b*.

Marginulina gladius Philippi, 1843, Beitr. z. Kenntniss d. Tertiärf. nordwest. Deutschl., p. 40, plate i. fig. 37. *Cristellaria gladius* Hantken, 1875, Mitth. a. d. Jahrb. k. ungar. géol. Anstalt, p. 51, plate v. fig. 12.

Amongst the compressed arcuate forms of *Cristellaria* from the Gault there is one specimen which does not exactly correspond with any of the typical Cretaceous forms, but seems to be referable to the almost exclusively Tertiary species *C. gladius*. The Gault specimen also shows a decided thickening of the sutural lines, a character which is to be seen in typical examples of the species, but in this point it also bears some affinity to *C. humilis*.

C. gladius was found in zone v., very rare.

Cristellaria Bronni Römer sp., plate IX. fig. 12 *a*, *b*, fig. 13 *a*, *b*.

Planularia Bronni Römer, 1841, Verstein. d. nordd. Kreidegeb., p. 97, plate xv. fig. 14. *Cristellaria Bronni* Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 70, plate vii. fig. 13 *a*, *b*.

This species may be recognized by the compressed outer margin of the test, which is strongly keeled at the commencement. This feature serves to distinguish it from Reuss' *C. cephalotes.** Berthelin gives a figure of a Cristellarian of this elongate type,† along with another figure, both under the name of *C. trunculata.* The former figure is evidently a typical specimen of *C. cephalotes*; the latter figure,‡ however, being distinct from the other forms, is here treated as Berthelin's type of *C. trunculata*, and will be found noted subsequently in this series.

C. Bronni was described by Römer from the Hilsthon, and by Reuss from the "Speeton clay" of North Germany.

It was found in the Folkestone Gault in zone ii., specimen *b*, very rare; zone ii., specimen *c*, very rare; zone iv., very rare; zone v., very rare; zone vii., rare; zone x., frequent.

Cristellaria lituola Reuss, plate IX. fig. 14 *a*, *b*.

Cristellaria lituola Reuss, 1845, Verstein. böhm. Kreidef., pt. ii. p. 109, pl. xxiv. fig. 47.

This very distinct species was found in the Plänermergel of Bohemia by Reuss.

In the Gault of Folkestone it was found in zone i., specimen *b*, very rare; zone xi., 45 ft. from the top, very rare.

Cristellaria navicula d'Orbigny, plate X. fig. 1.

Cristellaria navicula d'Orbigny, 1840, Mém. Soc. géol. France, sér. i. vol. iv. p. 27, plate ii. figs. 19, 20. *C. navicula* Reuss, 1845, Verstein. böhm. Kreidef., pt. i. p. 34, plate xii. fig. 27.

This species is a familiar one in Cretaceous faunas. It has been recorded from the Gault of Montcley, France (Berthelin); the Plänermergel of Bohemia (Reuss); the Senonian-marl of Westphalia (Reuss); the Phosphatic Chalk of Taplow (Chapman); the Chalk of Sens and Meudon, France (d'Orbigny); the White Chalk of Kent (Rupert Jones in Morris's Cat. of Br. Foss.); the Upper Chalk of the North of Ireland (Wright); and from the Chalk of Maestricht (Reuss).

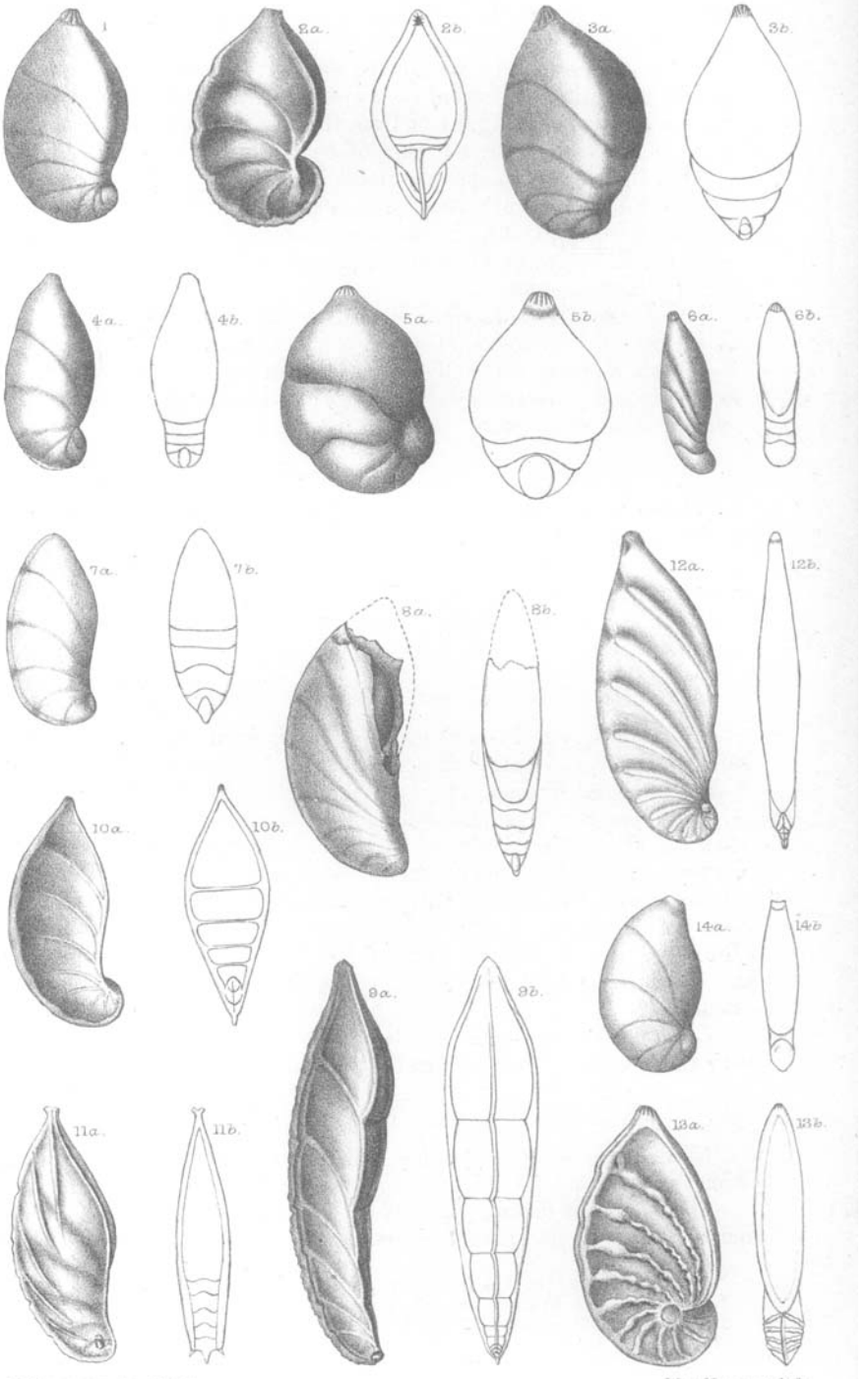
C. navicula was found in the Gault of Folkestone in zone iv., very rare; zone xi., 50 ft. from the top, very rare; 45 ft. very rare.

Cristellaria sulcifera Reuss, plate X. fig. 2 *a*, *b*.

Cristellaria sulcifera Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. pp. 74, 93, pl. viii. figs. 8 *a*, *b*.

This species is distinguished from the allied forms of *C. navicula* and *C. Italica* by its grooved sutural lines. It was described by Reuss

* Sitzungsb. d. k. Ak. Wiss. Wien, 1862, vol. xlvi. p. 67, pl. vii. figs. 5, 6.
† Mém. Soc. géol. France, 1880, sér. 3, vol. i. No. 5, p. 53, pl. iii. fig. 26 *a*, *b*.
‡ Tom. cit., p. 53, pl. iii. fig. 27 *a*, *b*.



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Folkestone-Gault Foraminifera.

from the *Minimus*-thon of Eilum in North Germany, and is also recorded by the same author from the Gault of Folkestone. *C. sulcifera* has also been found in the Neocomian beds of Littleton in Surrey (author's MS.)

Found at Folkestone in zone i., specimen *b*, frequent; zone iii., very rare; zone ix., rare; zone xi., 45 ft. from the top, very rare; 40 ft., very rare.

Cristellaria triangularis d'Orbigny, plate X. fig. 3 *a, b.*

Cristellaria triangularis d'Orbigny, 1840, Mém. Soc. géol. France, sér. i. vol. iv. p. 27, plate ii. figs. 21, 22. *C. triangularis* Reuss, 1845, Verstein. böhm. Kreidef., pt. i. p. 34, pl. viii. fig. 48.

This is also a distinctly Cretaceous form and has been recorded from the Gault of Folkestone (Rupert Jones in Morris's Cat. of Br. Foss., and also by Reuss); the Gault of Montcley (Berthelin); the "Chalk Detritus" of Charing, Kent (Rupert Jones); the Plänermergel of Bohemia (Reuss); the White Chalk of Kent (Rupert Jones); the Chalk of Sens (d'Orbigny); the Phosphatic Chalk of Taplow (Chapman); and from the Upper Chalk of the North of Ireland (Wright).

Found in the Gault of Folkestone in zone iv., very rare; zone v., very rare; zone viii., very rare; zone xi., 35 feet from the top, very rare; 6 ft., very rare.

Cristellaria trunculata Berthelin, plate X. fig. 4 *a, b.*

Cristellaria trunculata (pars), Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i., No. 5, p. 53, plate iii. fig. 27 *a, b.*

This species was described by Berthelin from the Gault of Montcley. It is closely allied to *C. oligostegia* Reuss. It differs from the latter form in the diminutive rolled commencement and greater compression and elongation of the test. The segments are usually much more numerous in *C. trunculata;* but both forms have the deeply indented sutures between the chambers, and the produced terminal orifice.

C. trunculata was found in the Gault of Folkestone in zone v., very rare; zone xi., 30 ft. from the top, very rare; 6 ft., very rare.

Cristellaria oligostegia Reuss, plate X. fig. 5 *a, b.*

Cristellaria oligostegia Reuss, 1860, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xl. p. 213, plate viii. fig. 8. *C. oligostegia* Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 93, plate xiii. fig. 2.

Among the Gault *Cristellariæ* which have few chambers and a well-rounded contour some individuals may be noticed which come within the description of Reuss' *C. oligostegia*, which was first found by that author in the detrital deposits of Westphalia, and subsequently in the Gault of Folkestone. It has since been found in the Neocomian beds of Chilworth, in Surrey (author's MS.)

It was found in the present series from Folkestone in zone ii., specimen *a*, very rare; zone ii., specimen *b*, rare; zone ii., specimen *c*, rare; zone iii., very rare; zone v., very rare; zone ix., very rare; zone xi., 55 ft. from the top, very rare; 40 ft., rare.

Cristellaria tripleura Reuss, pl. X. fig. 6, *a*, *b*.

Cristellaria tripleura Reuss. 1860, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xl. p. 211, plate ix. fig. 5. *C. tripleura* Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 70.

The examples of *C. tripleura* from the Gault of Folkestone are very characteristic. Reuss described the species from the *Minimus*-thon (the equivalent of the English Gault) of Westphalia.

It was found at Folkestone in zone i., specimen *b*, very rare; zone ii., specimen *c*, very rare.

Cristellaria scitula Berthelin, plate X. fig. 7 *a*, *b*.

Cristellaria scitula Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i. No. 5, p. 53, plate iii. fig. 3 *a–c*.

This species was described by Berthelin from the Gault of Montcley. The test of *C. scitula* is more elongate and compressed at the sides than *C. triangularis*, and the spiral commencement is inconspicuous.

C. scitula was found in the Folkestone Gault in zone xi., 6 ft. from the top, rare.

Cristellaria latifrons, plate X. fig. 8 *a*, *b*.

Cristellaria latifrons Brady, 1884, Chall. Rep., vol. ix. p. 544, plate lxviii. fig. 19; plate cxiii. fig. 11 *a*, *b*.

The above species was described by Dr. Brady from recent specimens found off the West Coast of New Zealand, at 275 fathoms; and off Culebra Island, West Indies, at 390 fathoms.

The Gault specimen is fairly typical, although the latter chambers are not quite so erect as in the recent examples.

The only specimen of *C. latifrons* from the Gault was found in zone x.

Cristellaria Bononiensis Berthelin, plate X. fig. 9 *a*, *b*.

Cristellaria Bononiensis Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i. No. 5, p. 55, plate iii. fig. 23 *a–c*.

This species belongs to the type of *C. Italica*. It is a very constant form in the Gault, and was originally described by Berthelin from the Gault of Wissant and l'Aube.

In the specimens from Folkestone it is difficult in most cases to make out the secondary costulate ornamentation of the ventral or front aspect, such as is figured by Berthelin, but the strong median costula is always present.

C. Bononiensis was found in the Gault of Folkestone in zone ii., specimen *c*, very rare; zone iii., very common; zone iv., frequent; zone vi., very rare; zone ix., very rare; zone x., rare; zone xi., 55 ft. from the top, common; 50 ft., rare; 45 ft., frequent; 40 ft., very rare; 35 ft., common; 30 ft., very rare; 25 ft., frequent; 20 ft., rare; 12 ft., very rare.

Cristellaria Italica Defrance sp., plate X. fig. 10. *a*, *b*.

Saracenaria Italica Defrance, 1824, Dict. Sci. Nat., vol. xxxii, p. 177; vol. xlvii. p. 344.—Atlas Conch., plate xiii. fig. 6. *Cristellaria Italica* Parker, Jones and Brady, 1865, Ann. and Mag. Nat. Hist., ser. 3, vol. xvi. pp. 21, 32, plate i. figs. 41, 42. *C. Italica* Brady, 1884, Chall. Rep., vol. ix. p. 544, plate lxviii. figs. 17, 18, 20–23.

C. Italica as it appears to be generally accepted consists of an elongate test, triangular in transverse section, and with a small and open spiral commencement; the edges of the test are usually more or less rounded, but the specimens from the Gault bear some affinity towards *C. navicula* in that the edges are sharp, and the back distinctly keeled, but are separated from that form on account of the elongation of the test. As a recent form *C. Italica* is found in moderately shallow water, at depths from about 100 to 700 fathoms. It has been noted in the fossil condition from beds of Neocomian age at Littleton, in Surrey (author's MS.). It has also been recorded from the Chalk of the North of Ireland (Wright) and from various strata of Tertiary age.

C. Italica was found in the Folkestone Gault in zone i., specimen *b*, rare; zone ii., specimen *a*, very rare; zone iv., very rare; zone ix., very rare; zone x., very rare; zone xi., 20 ft. from the top, very rare; 12 ft., very rare.

Cristellaria vestita Berthelin, plate X. fig. 11 *a*, *b*.

Cristellaria vestita Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i. No. 5, p. 55, plate iii. fig. 22 *a*, *b*.

This pretty form is a fairly constant one in the Gault series from Folkestone. It was described by Berthelin from the Gault of Montcley, France, and it has also been found in strata of Neocomian age, viz. the Bargate-beds at Littleton in Surrey (author's MS.).

C. vestita was found at Folkestone in zone iii., very rare; zone v., very rare; zone vii., very rare; zone x., very rare; zone xi., 55 ft. from the top, frequent; 50 ft., frequent; 40 ft., frequent; 35 ft., rare; 30 ft., rare; 12 ft., very rare.

Cristellaria complanata Reuss, plate X. fig. 12 *a*, *b*.

Cristellaria complanata Reuss, 1845, Verstein. böhm. Kreidef., pt. i. p. 33, plate xiii. fig. 54. *C. complanata* Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 92, plate xii. fig. 13 *a*, *b*.

This species was described by Reuss from the Plänermergel of Bohemia, and he subsequently recorded it from the Gault of Folkestone. It has also been found in beds of Neocomian age at Littleton in Surrey (author's MS.).

C. complanata was found at Folkestone in zone xi., 12 ft. from the top, frequent; 6 ft., frequent.

Cristellaria Bradyana sp. n., plate X. fig. 13 *a*, *b*.

Test suboval, with nearly flat sides. It consists of about twelve narrow and gently arched chambers divided by sutural ridges which are interrupted towards the front of the shell, and nearer the dorsal edge become strongly swollen. The spiral commencement of the test is partially hidden by the overlapping of the last three chambers. There is a distinct umbilical excavation above the axis of the spiral. The dorsal edge of the last four chambers has a sinuous outline, and is deeply grooved. The aperture is terminal and the border marked with radiating lines. The front peripheral edge of the spiral portion of the test is rather sharply keeled. Length 1/45 in.; greatest breadth 1/80 in.

At first sight the ornamentation of *C. Bradyana* reminds one of *C. gemmata* Brady.* The sutural ridges, however, in the former species are not broken up in such a manner as to give the distinctly beaded ornamentation seen in the latter form; and, further, the peripheral aspect of *C. Bradyana* shows a keeled edge in the earlier part of the test, whereas in *C. gemmata* the peripheral edge is quite square. Although the two forms *C. Bradyana* and *C. complanata* are fairly distinct, yet they have some characters in common, and it is instructive to note that *C. complanata* is confined to the uppermost beds of the Gault, whilst *C. Bradyana* ranges through the middle and part of the upper portions.

C. Bradyana was found in zone x., very common; zone xi., 50 ft. from the top, rare; 45 ft., rare; 40 ft., very rare; 35 ft., frequent; 25 ft., very rare.

Cristellaria planiuscula Reuss, plate X. fig. 14 *a*, *b*.

C. planiuscula Reuss, 1862, Sitzungsb. d. k. Ak. Wiss. Wien, vol. xlvi. p. 71, plate vii. fig. 5 1 *a*, *b*. *C. planiuscula* Berthelin, 1880, Mém. Soc. géol. France, sér. 3, vol. i. No. 5, p. 53, plate iii. fig. 25 *a*, *b*.

This species was found by Reuss in the Neocomian beds of North Germany, and Berthelin describes it from the Gault of France.

It was found at Folkestone in zone ii., specimen *a*, very rare; zone ii., specimen *b*, very rare; zone iii., rare; zone iv., very rare; zone v., very rare; zone xi., 55 ft. from the top, very rare; 25 ft., very rare; 20 ft., very rare; 6 ft., very rare.

* Chall. Rep., ix. p. 554, pl. lxxi. figs. 6, 7.