REVISION OF THE ASIATIC SPECIES OF THE GENUS *CORBICULA*.

I.—The Indian species of *Corbicula*.

By B. Prashad, *D.Sc.*, *F.R.S.E.*, *F.A.S.B.*,
Zoological Survey of India, Calcutta.

(Plates III, IV.)

In spite of a number of monographs on the genus *Corbicula* that have been published within the latter half of the last century we are still far from possessing a clear knowledge of the species referred to this genus. The faulty and incomplete descriptions of the earlier authors are a source of constant difficulty and the absence of good figures makes it almost impossible to identify most of the species described by them ; the difficulty is further accentuated by the absence of properly designated types of the species described by various authors. In the case of the Indian species another source of confusion was the mistaken identification of the Indian forms by Chemnitz [1] and following him by later authors with the Müllerian species from China and Central Asia. The earlier authors further paid no heed to the great variation in the form of the shells and their sculpture, and often based new species on specimens of different ages with slightly different types of sculpture or even on differently coloured shells. In the genus *Corbicula* specific differences are not well marked, and the genus, as Blanford [2] rightly remarked, " appears to have been designed by a beneficent Providence for the amusement of species-makers." In this connection reference may be made to the beautifully illustrated monograph of the species of the genus from the province of Nanking and Central China by Heude [3], and which Pilsbry [4] rightly criticised as follows :— " In dealing with the Chinese species, Père Heude has attempted to name every local form, a task I believe to be practically impossible, and if accomplished the result would be absolutely useless to any other zoologist from the impossibility of again recognizing the forms." Haas [5] in speaking of these forms remarked " was aber die Gattung *Corbicula* anbelangt, von der ich viele Hunderte von Stucken vergleichen konnte, so fand ich nur die von unseren einheimischen Cycladiden bekannte Variabilität vor, durch welche eine Grundform, die alte Müllersche *C. fluminea*, oft bis zur Unkenntlichkeit verändert, aber stets durch Zwischenglieder mit der typischen Form verbunden ist. Ich muss demgemäss allen von Heude aufgestellten chinesischen *Corbicula*—Arten die Daseinberechtigung absprechen and kann ausser *V. fluminea* nur eventuell noch *C. largillierti* Phil. als Art anerkennen, da mir Zwischenformen zwischen dieser und jener noch nicht vorkamm." I have recently had a chance of examining most of the co-types or paratypes of Heude's species, and though the sweeping condemnation of Heude's species as suggested by Haas is

[1] Chemnitz, J. H., *Martini und Chemnitz Conch.-Cab.* VI, pp. 319-323 (Nürnberg, 1782).
[2] Blanford, W. T., *Journ. Asiat. Soc. Bengal*, XLIX, pt. ii, p. 222 (1880).
[3] Heude, R. P., *Conch. fluv. Nanking et Chine Centrale*, Fasc. X, pls. i-viii and descriptions (Paris, 1883).
[4] Pilsbry, H. A., *Annot. zool. Japon.* VI, p. 153, footnote (1907).
[5] Haas, F., *Ber. Mus. Natur. u. Heimatkunde Magdeburg*, III (Heft 4), p. 290 (1922).

not borne out by my work, there can be no question that the remarks of Pilsbry and Haas were fully justified. My results of the revision of the Chinese species will be published in a later paper in this series.

The present communication is one of a series, the first paper of which, on the Japanese species of the genus, was published in the " Memoirs of the Asiatic Society of Bengal " in 1924.[1] The delay in the publication of further parts is due to various causes, the main one of which was the getting together of sufficient fresh material and of the old collections for examination. I have now had the advantage of studying the entire collections in the British Museum (Natural History), London; Museum d'Histoire Naturelle, Paris; the Berlin Museum; Zoological Museum, Amsterdam; Stuttgart Museum; Senckenberg Museum, Frankfurt a/Main; Cambridge Museum; and, last but not least, the types in the Zoological Museum of Copenhagen. In addition, the extensive private collections of Monsieur P. Dautzenberg of Paris were generously sent to me for study in Calcutta. For the loans of these collections I have to thank the authorities of the various institutions for their generosity and in this connection I am indebted to Mr. G. C. Robson, Monsieur L. Germain, Dr. J. Thiele, Dr. L. F. deBeaufort and Dr. T. van Benthem Jutting, Dr. O. Buchner, Dr. F. Haas, and Dr. R. Spärck. The collections in the Indian Museum have within recent years been greatly enriched by large accessions obtained by exchange, while large series of fresh specimens have been collected from almost all parts of India, and my thanks are due to my colleagues in the Zoological Survey of India for collecting large series of specimens of the genus while out on survey work in different parts of the country.

Corbicula Meg. von Mühlfeldt.

1774. *Tellina* (in part), Müller, *Verm. Terr. Fluv. etc.*, II, p. 205.
1782. *Venus* (in part), Chemnitz, *Martini u. Chemn. Conch.-Cab.*, VI, p. 319.
1788. *Tellina* (in part), Gmelin, *Linne's Systema Naturae* (ed. 13), p. 3242.
1798. *Cyclas* (in part), Brugiere, *Encyclopéd. Method*, pl. ccci.
1801. *Cyclas* (in part), Lamarck, *Systema. Anim. sans Vertèb.*, p. 123.
1802. *Cyclas* (in part), Bosc, *Hist. Nat. Coquille*, III, p. 35.
1811. *Corbicula*, Megerle von Muhlfeldt, *Mag. Ges. naturf. Fr. Berlin*, V (1), p. 38.
1818. *Cyrena* (in part), Lamarck, *Hist. Nat. Anim. sans. Vertèb.*, V, p. 522.
1820. *Venulites*, Schlotheim, *Petrefac.* p. 200.
1821. *Corbicula*, Férussac, *Tabl. System. Anim. Moll. etc.*, p. xliii.
1825. *Corbicula* (subgenus of *Cyrena*) Blainville, *Man. Malacol.*, p. 552.
1830. *Cyrena* (in part), Deshayes, *Encyclopéd. Method.*, II, p. 49.
1830. *Corbicula*, Menke, *Synop. Method. Moll.*, p. 111.
1835. *Cyrena* (in part), Deshayes in Lamarck, *Hist. Nat. Anim. sans Vertèb.*, VI, p. 273.
1843. *Cyrena* (in part), Hanley, *Cat. Rec. Biv. Shells*, p. 92.
1846. *Corbicula*, Herrmannsen, *Index Gen. Malac.* I, p. 304.
1847. *Corbicula*, Gray, *Proc. Zool. Soc. London*, p. 184.
1854. *Corbicula*, Deshayes, *Cat. Conch. Brit. Mus.*, II, p. 220.
1857. *Corbicula*, Adams, H. & A., *Gen. Rec. Moll.*, II, p. 447.
1860. *Corbicula*, Prime, *Proc. Acad. Nat. Sci. Philadelphia*, XII, p. 267.
1869. *Corbicula*, Prime, *Amer. Journ. Conch.*, V, p. 127.

[1] Prashad, B., *Mem. Asiat. Soc. Bengal*, VI, pp. 523-529, pl. xxii (1924).

1872. *Corbicula*, Clessin, *Malakozool. Blätt.*, XIX, p. 160.
1877. *Corbicula*, Clessin, *Martini u. Chemn. Conch.-Cab.* (n. f.), *Cycladeen*, p.129.
1877. *Cyrena* (in part), Sowerby, *Conch. Icon.*, XX.
1884. *Corbicula*, Tryon, *Str. Syst. Conch.*, III, p. 185.
1887. *Corbicula*, Fischer, *Man. Conchyliol.*, p. 1091.
1891. *Corbicula*, von Martens, Weber's *Zool. Ergebn. Niederländ Ost.-Ind.*, IV, p. 108.
1903. *Corbicula*, Dall, *Trans. Wagner Free Inst. Sci. Philadelphia*, III, p. 1448.
1915. *Corbicula*, Preston, *Faun. Brit. Ind. Freshw. Moll.*, p. 210.
1920. *Corbicula*, Prashad, *Rec. Ind. Mus.*, XVIII, p. 209.
1922. *Corbicula*, Germain, *Moll. terr. fluv. Syrie*, II, p. 92.
1927. *Corbicula*, Pilsbry & Bequaert, *Bull. Amer. Mus. Nat. Hist.*, LII, p. 185.

The above synonymy of the genus *Corbicula* includes references to most of the important works on the genus ; other references of minor importance will be found in the works cited. The genus was established by Megerle von Mühlfeldt in 1811[1], but, as is clear from the literature cited above, it was ignored by most workers till Férussac referred to it in 1820. It was, however, not till Gray's monumental work on the genera of Mollusca in 1847 that the genus was generally adopted.

Most of the earlier work on the genus consisted in the description of new species, and only in two cases attempts have been made to divide the species into groups or sections. The first of these is the work of von Martens, who when dealing with the molluscs of the East Indian Archipelago classified several of the Asiatic and Australian species of the genus into groups. The groups were based on external form and were, as he stated, " in dieser Gattung lassen sich hauptsachlich nach den aussern Umriss mehrere Artengruppen unterscheiden, welche sich in verscheidenen geographischen Gebieten wiederholen." These groups he called (i) Transversae, (ii) Tumidae, (iii) Triangulares, (iv) Subaequilaterae, and (v) Debiles. The groups run into each other and it is not always easy to assign species to the different groups. The groups are quite artificial and their definitions are not detailed enough to be of much value. It may also be noted that von Martens did not include in the above groups the large smooth-shelled form which up till now has been known as *C. woodiana* Lea which is confined to China, nor the South American Corbiculidae.[2]

The second attempt was that of Dall,[3] who in connection with his studies on the Tertiary Fauna of Florida suggested sections for both the recent and the fossil members of the genus. I will here consider only the sections suggested for the recent forms. He divided the genus *Corbicula* into subgenera as follows :— (i) the subgenus *Corbicula* for all the recent and fossil forms of the Old World, and including a fossil section—*Veloritina* Meek—from Bear River Cretaceous of Wyoming, North America, and (*ii*) the subgenus *Cyanocyclas* Férussac for the recent forms found in Central America, Mexico and South America. The subgenus *Corbicula*, in the case of the recent species, was further subdivided into three sections, (i) *Corbicula s.s.* with *C. fluminalis* (Müller) as its type and with the characters of

[1] Benson's name *Corbicula* which is referred to in Chenu, *Man. Conchyliol.*, II, p. 85 (1847), and in Tryon, *Str. Syst. Conch.* III, p. 177 (1884) is apparently a *nomen nudum* and was, so far as I can find, never published. In any case it is a synonym of *Cytherea* and has nothing to do with the genus under consideration.

[2] The subgeneric name for the American Corbiculidae is *Cyanocyclas* Férussac [*Dict. Sci. Nat.*, XII, p. 280 (1818)], and not *Leptosiphon* Fischer or *Polymesoda* Rafinesque as suggested by von Martens (*l. c.* p. 111).

[3] Dall, W. H., *Trans. Wagner Free Inst. Sci.*, III, pt. VI, pp. 1448-1450 (1903).

the genus, (ii) *Corbiculina* Dall with *Corbicula angasi* Prime as the type, and apparently differing from *Corbicula s.s.* in the very fine sculpture of the shell, the short nymphs with their opposing surfaces granulate and the very oblique cardinal teeth; the section was stated to have a wide distribution in India, Java, Madagascar and Australia; and (iii) *Cyrenodonax* Dall with *C. formosana* Dall as type, and characterized by its thin smooth shell, anterior end of the shell much larger than the posterior, and beaks situated in the posterior third. The section is monotypic and is based on a single species found at the mouth of the Tamusi River in Formosa.

In the present paper I have not attempted to refer the Indian species to any groups or subgenera, and propose leaving this over till my revision of all the Asiatic forms is completed.

The earliest reference to the Indian Corbiculas is by Chemnitz,[1] who in 1782 recorded under the name *Venus fluviatilis* a species from the streams of the Cormandel Coast; this, as is discussed below, is not the Müllerian *Corbicula fluviatilis*, but *C. striatella* Deshayes. I will not refer here in detail to the question of the synonymy of the Müllerian species, as I am dealing with them in another paper. It may, however, be noted that this inclusion of the Chinese species in the Indian list by Chemnitz was responsible for the greater part of the confusion in the synonymy and in our knowledge of the geographical distribution of the various Asiatic species. Philippi [2] in 1847 not only perpetuated the mistake of Chemnitz, but by his haphazard treatment of the Müllerian species introduced further confusion. Deshayes,[3] in 1854, was the first to describe the true Indian species of the genus. He described far too many species, a number of which have now to be included in the synonymy of his own forms, but probably with the small amount of material before him and the tendency of the times to consider small variations in shape, form or colour as specific differences, nothing else was to be expected. Prime in the years 1860-1869 in his well-known works on the Corbiculidae[4] described or figured a number of new species and collected together all the earlier references in his catalogues; unfortunately, however, the work was not critical and is not of great value. The Indian species were figured in Hanley & Theobald's Conchologia Indica[5] in 1875-76 and by Sowerby in Reeve's 'Conchologia Iconica'[6] in 1877. In 1877-78 the species were monographed by Clessin[7] in his work in the Conchylien Cabinet; this work is very unsatisfactory, and in spite of reference to Clessin's originals I have found it impossible in many cases to clear up some of the confusion created by him. His separate paper in 1887[8] on some new species is also far from satisfactory and shows a lack of critical detail. His descriptions and figures seldom tally and only in exceptional cases do the figures represent the shells figured. Blanford[9] in 1880, and von Martens[10] in 1899, each described a new species of *Corbicula* from the Indian area but did not deal with the other species.

---

[1] Chemnitz, J. H., *Martini u. Chemnitz-Conch. Cab.*, VI, pp. 319-323 (Nürnberg, 1782).
[2] Philippi, R. A., *Abbild. Beschreib. Conch.*, II, pp. 75-77 (Cassel, 1847).
[3] Deshayes, G. P., *Cat. Conch. Brit. Mus.*, II, pp. 223, 224 (London, 1854).
[4] Prime, T., *Amer. Journ. Conch.*, V, pp. 127-138 (1869). References to his earlier papers are included in this monograph.
[5] Hanley, S. & Theobald, W., *Conch. Indica*, pp. 55, 62, pls. cxxxviii, clv (London, 1875-76).
[6] Sowerby, G. B., *Reeve's Conch. Iconica* XX, (under *Cyrena*) (London, 1877).
[7] Clessin, S., *Martini u. Chemn. Conch.-Cab.* (n. f.) *Cycladeen* (Nürnberg, 1874-79).
[8] Clessin, S. *Mal. Blätt.* (n.f.) IX, pp. 67-80, pls. i, iii (1887).
[9] Blanford, W. T., *Journ. As. Soc., Bengal*, XLIX, pt. ii, pp. 221, 222 (1880).
[10] von Martens, E., *Archiv. Naturgesch.* LXV, p. 47, pl. iv, figs. 7-9 (1899).

Preston's[1] treatment of the Indian species in 1915 in the 'Fauna of British India' was no improvement, while a number of the new species of the genus described by him do not belong to it. In his account Preston included the following 28 species from the Indian area :—*C. fluminalis* (Müller) with var. *holstiana* Schlesh, *C. fluminea* (Müller), *C. fluviatilis* (Müller), *C. parvula* Prime, *C. agrensis* Prime, *C. subradiata* Prime, *C. cashmiriensis* Deshayes, *C. trigona* Deshayes, *C. striatella* Deshayes, *C. huttoniana* Clessin, *C. subnitens* Clessin, *C. solida* Clessin, *C. nevilli* Clessin, *C. occidens* Deshayes, *C. iravadica* Blanford, *C. regularis* Prime, *C. bengalensis* Deshayes, *C. bensoni* Deshayes, *C. consanguinea* Prime, *C. sylhetica* Preston, *C. quilonica* Benson, *C. alberti* Preston, *C. inflata* Clessin, *C. picta* Clessin, *C. indica* Clessin, *C. regia* Clessin, *C. noetlingi* von Martens and *C. arata* (Sowerby), and in this work he did not refer to his new species *C. tribeniensis*[2] which he had described in 1911.

In revising the Indian species I find that *C. fluminalis* (Müller) occurs within the limits of the Indian Empire only in Northern Baluchistan[3] and may for the present account be left out of consideration ; I propose dealing with it later in the account of the Palaearctic species of Central Asia, etc. The var. *holstiana* Schlesh is wrongly referred to this species ; it is only a synonym of the widely distributed Indian species *C. striatella* Deshayes (*vide infra* p. 19). *C. fluminea* (Müller) with *C. fluviatilis* (Müller) as a synonym is a Chinese species and does not occur in India. *C. parvula* Prime, *C. agrensis*, Prime, *C. subradiata* Prime, *C. trigona* Deshayes, *C. huttoniana* Clessin, *C. nevilli* Clessin, *C. occidens* Deshayes, *C. regularis* Prime, *C. bengalensis* Deshayes and *C. consanguinea* Prime are synomyms of *C. striatella* Deshayes ; probably *C. indica* is also to be included in the synonymy of this species (*vide infra* p. 19). *C. regia* Clessin is not an Indian species ; it was described by Clessin from a specimen in the Paetel collection and was stated to be probably from India. Benson's original lot of this species, which I have seen, and from which Paetel's specimens came, are, however, all from Penang, Malay Peninsula. *C. quilonica* Benson[4] is not a *Corbicula* and is based on young shells of *Villorita cyprinoides* var. *cochinensis* (Hanley). In 1916 Preston[5] described a new species *Corbicula cochinensis* from Cochin backwaters. I have examined the type and large numbers of specimens of this supposed species and find that it is based on young shells of *Villorita cyprionoides* var. *cochinensis* (Hanley). I am unable to offer any remarks about *C. alberti* Preston, *C. inflata* Clessin and *C. picta* Clessin, as I have not succeeded in tracing the types of these species, and the descriptions and figures are far from satisfactory ; the species are certainly not Indian. No reference is necessary to Preston's *Corbicula* (*Velorita*) *satparaensis*[6] from the Chilka Lake, for, as the author himself later[7] pointed out, the species was based on worn shells of *Meretrix casta* (Chemn.).

In the following account I describe three new Indian species as *C. annandalei*, *C. assamensis* and *C. peninsularis*, and recognize as valid *C. striatella* Deshayes, *C. cashmiriensis*

---

[1] Preston, H. B., *Faun. Brit. Ind. Freshw. Moll.* pp. 210–223 (London, 1915).
[2] Preston, *Rec. Ind. Mus.* VI, p. 40, fig. 3 (1911).
[3] See Annandale & Prashad, *Rec. Ind. Mus.* XVIII, p. 58 (1921).
[4] Prashad, B., *Rec. Ind. Mus.* XXII, p. 116 (1921).
[5] Preston, H. B., *Rec. Ind. Mus.* XII, p. 36, figs. 12, 12*a*, 12*b* (1916).
[6] Preston, H. B., *Rec. Ind. Mus.*, X, pp. 306, 307, figs. 22, 22*a* (1914).
[7] Preston, H. B., *Rec. Ind. Mus.* XI, p. 300 (1915).

Deshayes, *C. bensoni* Deshayes, *C. sylhetica* Preston, *C. noetlingi* von Martens, *C. arata* (Sowerby), *C. iravadica* Blanford, *C. solida* Clessin and *C. subnitens* Clessin from within the limits of India and Ceylon.

Corbicula striatella Deshayes.

(Pl. III, figs. 9—11.)

1782. *Venus fluviatilis*, Chemnitz (*nec* Müller) *Martini u. Chemn. Conch.-Cab.* VI, pl. xxx, fig. 321.

1854. *Corbicula striatella, C. Bengalensis*, and *C. trigona*, Deshayes, *Proc. Zool. Soc. London*, p. 344.

1854. *Corbicula occidens, C. Bengalensis, C. striatella* and *C. trigona*, Deshayes, *Cat. Conch. Brit. Mus.*, II, pp. 223, 224.

1857. *Corbicula occidens, C. Bengalensis, C. striatella, C. trigona* and *C. rivalis* (Adams, *nec* v.d. Busch, *non* Deshayes), Adams, H. & A., *Gen. Rec. Moll.*, II, pp. 447, 448.

1860. *Corbicula occidens*, Theobald, *Cat. Rec. Shells Mus. A. S. B.*, p. 140.

1860. *Cobicula Bengalensis, C. occidens C. rivalis* (in part), and *C. trigona*, Prime, *Proc. Acad. Nat. Sci. Philadelphia*, pp. 268, 272, 273, 274.

1860. *Corbicula regularis*, Prime, *Proc. Zool. Soc. London*, p. 321.

1861. *Corbicula parvula* [1], *C. subradiata, C. violacea* and *C. Agrensis*, Prime, *Proc. Acad. Nat. Sci. Philadelphia*, pp. 127, 128.

1863. *Corbicula Agrensis, C. occidens, C. parvula, C. regularis, C. striatella, C. subradiata, C. trigona* and *C. violacea*, Prime, *Cat. Corb.*, pp. 3, 4.

1863. *Cyrena occidens*, Hanley, *Photographic Conch.* pl. vi, fig. 5.

1864. *Corbicula striatella, C. subradiata, C. Agrensis* and *C. parvula*, Prime, *Ann. Lyc. Nat. Hist. New York*, VIII, pp. 74-76, figs. 22-25.

1866. *Corbicula occidens, C. Bengalica* and *C. trigona*, Prime, *op. cit.*, p. 220, figs. 51-53 and p. 221.

1867. *Corbicula consanguinea*, Prime, *op. cit.*, p. 417.

1869. *Corbicula Bengalica, C. consanguinea, C. imperialis, C. occidens, C. parvula, C. regularis, C. striatella, C. subradiata* and *C. trigona*, Prime, *Amer. Journ. Conch.*, V, pp. 128-137.

1872. *Corbicula occidens*, Mörch, *Journ. Conchyliol.*, XX, p. 342.

1875. *Corbicula occidens, C. striatella, C. Bengalensis* and *C. trigona*, Hanley and Theobald, *Conch. Ind.* pp. V, 55, 62, pl. cxxxviii, figs. 7-10, pl. clv, figs. 6, 7.

1876. *C. agrensis, C. consanguinea, C. Bengalica, C. imperialis, C. occidens, C. parvula, C. striatella, C. trigona* and *C. violacea*, Theobald, *Cat. Land. Freshwater Shells Brit. Ind.*, pp. 44, 45.

1877. *Cyrena occidens, C. trigona, C. striatella, C. Bengalensis* and *C. regularis*, Sowerby, *Conch. Icon.* XX, pl. xi, fig. 48, pl. xiii, fig. 48b ; pl. xi, fig. 43 ; pl. xi, fig. 49 ; pl. xi, fig. 50 ; pl. xv, fig. 76.

1877. *Corbicula bengalica* and *C. occidens*, Clessin in *Martini u. Chemn. Conch.-Cab.* (n. f.) Cycladeen, pl. 138, 139, 150, pl. xxvi, fig. 18.

1878. *Corbicula striatella, C. subradiata, C. parvula, C. agrensis, C. violacea* (*nec* Prime), *C. consanguinea, C. imperialis* and *C. trigona*, Clessin, *op. cit.*, I, p. 150, pl. xxxi, fig. 18 ; p. 167, pl. xxx, fig. 20 ; p. 174, pl. xxx, fig. 21 ; p. 174, pl. xxx, fig. 22 ; p. 175, pl. xxx, fig. 23 ; p. 180, pl. xxx, figs. 18, 19 ; p. 199 ; p. 203.

1883. *Corbicula Bengalensis, C. occidens* and *C. subradiata*, Paetel, *Cat. Conch.*, pp. 216, 217.

---

[1] Clessin's reference under this species of Philippi's [*Abbild. Beschreib. Conch.*, II, p. 78, pl. i, fig. 7 (1846)] in *Martini u. Chemn. Conch.-Cab.* is certainly incorrect ; the description and figure in Philippi's work are of *C. pusilla* Parreyss.

1887. *Corbicula nevilli* and *C. huttoniana*, Clessin, *Mal. Blätt.* (n. f.) IX, pp. 70, 71 ; 77, 78 ; pl. ii, fig. 5 ; pl. iii, fig. 5.

1890. *Corbicula Bengalica, C. consanguinea, C. imperialis, C. occidens, C. parvula, C. secaduilabris,*[1] *C. striatella* and *C. subradiata*, Paetel, *Cat. Conch. Samm.* III, pp. 100-104.

1908. *C. fluminalis* Müll. var. *holstiana*, Schlesh, *Rec. Ind. Mus.* II, p.108.

1915. *Corbicula parvula, C. agrensis, C. subradiata, C. trigona, C. striatella, C. huttoniana, C. nevilli, C. occidens, C. regularis, C. bengalensis, C. consanguinea* and *C. alberti*, Preston, *Faun. Brit. Ind. Freshw. Moll.*, pp. 212-220.

1921. *Corbicula occidens, C. striatella* and *C. subradiata*, Prashad, *Rec. Ind. Mus.*, XXII, pp. 612-614, fig. 32.

The above synonymy[2] is based on a careful examination of the types or authentically named specimens of the various species, and very large series of named and unnamed shells in the Indian Museum and other collections. In a few cases only, where it has not been possible to secure the types or authentically named material, I have had to rely on the figures and descriptions of these species.

The species has a very wide distribution and the shells from different areas appear very different in shape. It is this variation in form and shape, which changes to some extent with the age of the specimens, that is responsible for the large number of so-called distinct species included in the synonymic list given above. Various species, like *C. agrensis* Prime, *C. subradiata* Prime, *C. bengalensis* Deshayes, *C. parvula* Prime, *C. violacea* Prime, *C. nevilli* Clessin and *C. huttoni* Clessin, are all based on young shells of different ages, while *C. occidens* Desh., *C. trigona* Desh., *C. consanguinea* Prime, and *C. regularis* Prime appear to have been described from shells which only differ slightly in shape.

C. fluminalis (Müller) var. *holstiana* Schlesh also appears to me to be based on large sized specimens of this species. I have not been able to examine any named material of this variety, but specimens from the type-locality and other parts of the North-West Frontier Province, which I have seen, are all true *C. striatella*.

The species may be redescribed as follows :—

Shell thick, of large size, triangular-ovate in young to almost ovate-rounded in full-grown shells ; of a shining lemon yellow colour in young ; full-grown shells are much darker and often brownish. Upper margin arched, much more so anteriorly than posteriorly ; this becomes specially marked in full-grown specimens ; anterior side more produced than the posterior, regularly rounded ; posterior side broadly rounded in young shells, distinctly truncated in full grown specimens. Shells somewhat tumid with prominent umbones which appear very marked in older shells. Surface glossy with raised, concentric and regular ridges ; in full-grown shells the ridges on the posterior part of the shell become indistinct. Hinge strongly developed ; anterior cardinals longer and more arched than the posterior ;

---

[1] Benson did not describe any species under this name, but I have seen specimens labelled as such and apparently distributed by Benson ; they are specimens of *C. striatella*.

[2] In addition to the forms included above I am of opinion that *C. mediocris* Prime which was described from specimens of unknown provenance [*Ann. Lyc. N. H. New York* VII, 481 (1862) and *id.* VIII, p. 414, fig. 68 (1867)], but later believed by Prime to have come from India [*Amer. Journ.-Conch.* V, p. 133 (1869)], is also probably synonymous with *C. striatella*. I have seen two specimens labelled as *Corbicula indica* Clessin in Dautzenberg collection from Calcutta. The species was described by Clessin [*Martini u. Chemn. Conch.-Cab.* pp. 143, 144, pl. xxv, figs. 21-23, 1877] as from " Ost-Indien." The specimens agree with Clessin's descriptions and figures. They are only full-grown shells of *C. striatella*. I have not succeeded in tracing the type of *C. indica* in any collection.

nymphal area prominent, broad and distinctly roughened. Muscle scars fairly deeply impressed and impinging on the cardinal teeth ; pallial line with a trace of a sinus. Interior of shell whitish or light purple in young to bluish purple in full-grown shells, somewhat irridescent. I give below the measurements of a series of large shells from Calcutta.

Measurements in millimetres.

Length ..	..	..	36	33·8	33·2	26·5	25·8
Maximum height ..	..	..	33·3	31·5	31·3	24·2	23
Thickness ..	..	..	21·7	21	19·5	16	14·7

Distribution.—This is the commonest Indian species of the genus and occurs practically all over India, from Peshawar in the north to Pondicherry and lower down south in the Madras Presidency and from Sindh in the north-west to Assam[1] ; it is also found in Burma. Deshayes's type-series consists of young shells only.

Corbicula cashmiriensis, Deshayes.

(Pl. III, figs. 14—18.)

1854. *Corbicula Cashmiriensis*, Deshayes, *Proc. Zool. Soc. London*, p. 344.
1854. *Corbicula Cashmiriensis*, Deshayes, *Cat. Brit. Mus. Conch.* II, p. 224.
1857. *Corbicula Cashmiriensis*, Adams, H. & A., *Gen. Rec. Moll.*, II, p. 447.
1860. *Corbicula Cashmiriensis*, Prime, *Proc. Acad. Nat. Sci. Philadelphia*, p. 269.
1869. *Corbicula Cashmiriensis*, Prime, *Amer. Journ. Conch.* V, p.129.
1875. *Corbicula Cashmirensis*, Hanley & Theobald, *Conch. Ind.* pp. v., 55, pl. cxxxviii, figs. 2, 3.
1876. *Corbicula Kashmirensis*, Theobald, *Cat. Land. Freshw. Shells Brit. Ind.*, p. 45.
1877. *Cyrena Cashmiriensis* (in Index *Cashmierensis*), Sowerby, *Conch. Icon.* XX, *Cyrena*, pl. xiii, fig. 60.
1877. *Corbicula Cashmirensis*, Clessin, in *Martini u. Chemn. Conch.-Cab.* (n.f.) *Cycladeen*, p. 166, pl. xxix, figs. 17, 18.
1883. *Corbicula Cashmiriensis*, Paetel, *Cat. Conch. Samm.*, III, p. 100.
1915. *Corbicula cashmirensis*, Preston, *Faun. Brit. Ind. Freshw. Moll.* pp. 213, 214.

The name of this species has been variously spelt, but the correct name, as originally published by Deshayes, is *C. cashmiriensis.*

The description of the species by Deshayes and by Sowerby is fairly complete, and it is only necessary to add a few notes to it.

The shell is somewhat triangular, the upper margins sloping and almost straight on the two sides of the medially situated umbones, the ventral margin is evenly arched. The specimens vary greatly in form, the younger and half-grown shells are not much broader than high and the ventral margin is greatly arched, but full-grown specimens are very much broader than high, and as a result the dorsal slopes are less steep and the ventral margin is also less arcuate ; the posterior side is drawn into a distinct beak which is truncated. The ribbing is very regular on the younger parts of the shell, with the ribs very prominent and regular ; on the older parts of the shell, however, the ribs are more closely placed, somewhat irregular, not so raised, and are quite indistinct on the posterior beak portion of the shell. The hinge is broad and strongly developed ; the nymphs are narrow and almost

[1] The species was also recorded as *Corbiculla (sic) occidens* and *C. ? sp. nov.* by Dalgliesh [*Journ. Bombay Nat. Hist. Soc.* XVII, p. 956 (1907)] from Tirhoot, Bengal.

smooth. The muscle scars are distinct but not deeply impressed, and the pallial line is without any sinus.

Measurements in millimetres.

Length	42·3	41·6	32·1	30·5	26·8	22·7	
Maximum breadth	33·2	33·4	26·4	25·8	22·2	18·8	
Height	25	22·2	17·5	15·6	14·4	17·6	

Distribution.—The species is confined to Kashmir and occurs in the River Jhelum and the waters connected with it. Preston, following the notes in "Conchologia Indica," stated that the species has also been recorded from Baluchistan and Avantipura. The first record is probably based on specimens of *C. fluminalis* (Müller), while the second is certainly incorrect; I have not seen any specimens from Ceylon which could be referred to this species.

Remarks.—The species is allied to *C. fluminalis* (Müll.), but is distinguished by the umbones being much less tumid, not meeting in the middle and not curving forwards, by the different type of hinge and the form of the shell.

Corbicula peninsularis, sp. nov.

(Pl. IV, figs. 13—16).

Shell of a large size, thick, triangular-oval; of a light chocolate-brown or even darker colour; young shells much lighter, almost lemon yellow. Surface very glossy, with broad, shallow ribs concentrically and regularly arranged; interspaces very narrow, almost linear and not at all deeply impressed, scarcely distinguishable in the lunular region; escutcheon with fine ridges, almost like minute striae. Upper slope very convex; anterior margin evenly curved and only slightly projecting; posterior side drawn out into a regular beak-like structure formed by the sudden bending up of the ventral border in its posterior third and becoming almost straight before reaching the posterior side; in some specimens, particularly half-grown individuals, the beak is not distinctly marked. Umbones prominent, tumid, somewhat curved inwards and forwards with, in fresh uneroded shells, deep ribs. Pallial line distinctly notched, much more so than in any other Indian species, muscle scars distinct, but not deeply impressed. Hinge strongly developed with the anterior laterals distinctly shorter than the posterior. Nacre shining white, sometimes with a bluish tinge.

Measurements in millimetres.

	Holotype.					
Length	29·8	27·4	26	23·5	20·6	19·5
Maximum breadth	24·5	23	23·2	21·8	19·4	18·9
Thickness	17	16·8	15·1	14·2	13·2	12·8

Holotype.—No. M $\frac{12833}{2}$ in the collections of the Zoological Survey of India (Indian Museum), Calcutta.

Distribution.—The species is represented by a good series from Bombay in the collections of the Zoological Survey of India. I have also examined a good series from the same place in the collections of the Museum d'Histoire Naturelle, Paris.

Remarks.—The species comes near *C. striatella* Deshayes, but is distinguished by its shape, much thicker shell and sculpture.

Corbicula annandalei, sp. nov.

(Pl. IV, figs. 11, 12.)

Shell rather thin, of small size, somewhat trigonal and of a shining light yellow colour, traces of brown are present on the posterior third of the shell. Upper margin sloping steeply, more so on the anterior than on the posterior side ; lower margin only slightly arched ; anterior side somewhat produced, narrow and regularly rounded ; posterior side comparatively short, somewhat truncate but regularly curved, and not forming a beak. Umbones prominent, greatly inflated and curved forwards. The glossy surface of the shell is sculptured with very minute, regular and concentric striae ; these become almost microscopic on the posterior third of the shell. Hinge very feeble, hinge-teeth normally developed ; nymphs very narrow, almost smooth. Muscle scars very shallow ; pallial line without any trace of a sinus. Interior of shell shining white, with traces of violet in the posterior third of the shell.

Measurements in millimetres.

	Holotype.	Paratype.
Length ..	14	11
Maximum height	12	10
Thickness	7·8	6·9

Holotype.—No. M. $\frac{5253}{1}$ in the collections of the Zoological Survey of India (Indian Museum), Calcutta.

Distribution.—Two shells of this interesting species were collected by the late Dr. N. Annandale from Vorkalay, Tranvancore State, South India ; these are the only specimens which I have seen.

Remarks.—The species is quite distinct from all other known Indian species of the genus, and is easily distinguished by the thin shell, its shape and the sculpture. The hinge is also different.

Corbicula assamensis, sp. nov.

(Pl. III, fig. 12).

Shell comparatively thin, of small size, ovate or triangular-oval in outline, of a shining light yellow colour with traces of light blue shining through the periostracum, posterior slope dirty yellow. Upper margin regularly arched, convex ; anterior side short and rounded ; posterior broad and distinctly truncate ; lower margin regularly arched in the anterior two-thirds after which it suddenly curves up to end in the truncated beak of the posterior side. Umbones not prominent, only slightly marked, eroded. Surface finely striated with distinct but not deep striae running regularly and concentrically. Hinge feebly developed, hinge-teeth normal ; nymphs narrow and almost smooth. Muscle scars distinct and fairly impressed ; pallial line without any sinus. Interior of shell dirty white with distinct traces of blue.

Measurements in millimetres.

	Holotype.	Paratype.
Length	12·2	9
Maximum height	10	7
Thickness	6·3	4·5

Holotype.—No. M. $\frac{3986}{1}$ in the collections of the Zoological Survey of India (Indian Museum), Calcutta.

Distribution.—The only two specimens, which I refer to this species, are from Assam; the holotype is from Phenchoogang Sylhet, Assam, while the exact provenance of the paratype is not known.

Remarks.—I have carefully compared the specimens described above as *C. assamensis* with all the known Indian species of the genus, but find them to be distinct. The species is allied to *C. striatella* Deshayes, but is distinguished by its thin shell, feebly developed sculpture, the hinge and the general form of the shell.

Corbicula bensoni Deshayes.

(Pl. IV, figs. 1—4.)

1854. *Corbicula Bensoni*, Deshayes, *Proc. Zool. Soc. London*, p. 345.
1854. *Corbicula Bensoni*, Deshayes, *Cat. Conch. Brit. Mus.*, II, p. 223.
1857. *Corbicula Bensoni*, Adams, H. & A., *Gen. Rec. Moll.* II, p. 447.
1860. *Corbicula Bensoni*, Prime, *Proc. Acad. Nat. Sci. Philadelphia*, XII, p. 268.
1869. *Corbicula Bensoni*, Prime, *Amer. Journ. Conch.*, V, p. 128.
1875. *Corbicula Bensoni*, Hanley & Theobold, *Conch. Ind.*, pp. v, 55, pl. cxxxviii, figs. 1, 4.
1876. *Corbicula Bensoni*, Theobald, *Cat. Land Freshw. Shells. Brit. Ind.*, p. 44.
1877. *Cyrena Bensoni*, Sowerby, *Conch. Icon.*, XX, *Cyrena*, pl. xi, fig. 44.
1878. *Corbicula Bensoni*, Clessin in *Martini u. Chemn. Conch.-Cab.* (n. f.) *Cycladeen*, p.198.
1883. *Corbicula Bensoni*, Paetel, *Cat. Conch.* p. 216.
1890. *Corbicula Bensoni*, Paetel, *Cat. Conch. Samm.*, III, p. 100.
1911. *Corbicula tribeniensis*, Preston, *Rec. Ind. Mus.* VI, p. 40, fig. 3.
1915. *Corbicula bensoni*, Preston, *Faun.. Brit. Ind. Freshw. Moll.*, p. 218.

Deshayes's description of this species is fairly complete, and it will be enough to refer to its distinguishing features. The shape is sub-trigonal, transversely ovate, and the thin shell with its very fine, almost microscopic striations distinguish it from all other species. All the specimens which I have examined are from the Ganges system round about Calcutta, except for a few specimens from Bhagalpore, Bihar, and one series from Chittagong, East Bengal. The species has also been recorded from the River Jumna, but I believe this to be a mistake.

Preston described some shells from Tribeni near Calcutta as a new species, *C. tribeniensis*, in 1911, but did not include it in his account of the genus in the "Fauna" Volume. I have examined the type and the cotypes and find that they are all specimens of *C. bensoni*.

Corbicula sylhetica Preston.

(Pl. IV, figs. 5, 6.)

1908. *Corbicula sylhetica*, Preston, *Rec. Ind. Mus.*, II, pp. 47, 48.

1915. *Corbicula sylhetica*, Preston, *Faun. Brit. Ind. Freshw. Moll.* pp. 218, 219.

Preston's description of the species is fairly complete and I have nothing to add to it. The species is closely allied to *C. bensoni* Deshayes and *C. iravadica* Blanford, but is distinguished by the shell being almost equilateral, very tumid, rather thicker than in these two species, and the striae still more minute.

I give below the measurements (*in millimetres*) of some specimens :—

Length	12	11	10·3	10	9	7·2
Maximum breadth	11·2	9·8	8·7	8·5	7·3	6
Thickness	8·8	9	6·2	5·7	5	4·3

Distribution.—All the specimens of this species, which I have seen, are from Phenchooganj, Sylhet, Assam.

Corbicula noetlingi v. Martens.

(Pl. IV, figs. 21—25.)

1899. *Corbicula regularis*, v. Martens (*nec* Prime), *Arch. Naturgesch.*, pp. 1, 46.

1899. *Corbicula Nötlingi*, v. Martens. *Arch. Naturgesch.*, p. 47, pl. iv, figs. 7-9.

1915. *Corbicula noetlingi*, Preston, *Faun. Brit. Ind. Freshw. Moll.*, p. 222.

1918. *Corbicula noetlingi*, Annandale, *Rec. Ind. Mus.*, XIV, pp. 141, 142, pl. xix, fig. 12.

The description of the species by von Martens is not complete, and his comparison of the form of the shell as " von Gestalt einer venus oder eine Tapes " is rather unfortunate. The shells are very variable in form, almost subtriangular to elongate-ovate, and have the same shape as most other species of the genus.

The species may be redescribed as follows :—

Shell elongate-ovate, sometimes subtrigonal, moderately inflated, narrowly truncate and compressed posteriorly, broadly rounded anteriorly ; upper margin greatly arched anteriorly, posteriorly nearly straight and only slightly sloping ; ventral margins slightly arched. Umbones prominent but not very inflated, situated in the anterior half, pointing forwards and inwards. Anterior and posterior ridges only feebly developed, neither prominent. Sculpture consisting of numerous distinctly raised concentric ridges ; these become obsolete on the older parts of the shell particularly in the posterior half ; the interspaces between the ridges about 3-4 times as broad as the ridges. Colour olive-yellow to brown or even black, much darker in older than in young shells. Interior purple to violet ; hinge area much lighter. Pallial line and adductor muscle scars feebly impressed. Hinge teeth as in the genus, except that the anterior lateral of the right valve is greatly compressed and curved by the anterior adductor muscle scar impinging on it. Nymphs finely roughened.

Measurements in millimetres.

	He-Ho.			Bhakmio.			Meungyaw.						
Length	14·3	18·7	20·1	20·3	25·4	27·3	27·8	30·5	30·6	31·5	31·5	34·7	32·5
Maximum breadth ..	11·9	14·7	15·3	17·2	20·2	22·4	24·2	24·6	23·2	24·6	24·6	26·8	25·7
Thickness	8·2	9·8	10	12	14·1	14·5	14·8	17·4	16·5	17·2	17·2	16·5	17·6

Distribution.—The species was described by von Martens from a small pool near Hpaung in the Northern Shan States. Since then Annandale referred specimens from the Southern Shan States to the same species and I have seen a fair number of shells from other areas. The species appears to be widely distributed in the Northern and Southern Shan States, Burma.

Remarks.—There can be little doubt that, as von Martens pointed out, the shells of unknown provenance figured by Sowerby[1] in Conchologia Iconica as *Cyrena Moussoniana* is not Deshayes's species *Corbicula Moussoni* from Java, but it is impossible to be certain whether it is the same as was described by von Martens as *C. noetlingi* from Upper Burma. As will be seen from the synonymy given above von Martens's specimens, which he referred to *C. regularis*, are also to be included here.

Corbicula iravadica Blanford.

(Pl. IV., figs. 7—10.)

1876. *Corbicula Iravadica* (Blanford *mss.*) Hanley & Theobald, *Conch. Ind.* pp. v, 62, pl. clv, fig. 8.

1876. *Corbicula Iravadica* (=*C. pisum*) and *C. pisum*, Theobald, *Cat. Land Freshw. Shells Brit. Ind.*, pp. ii, 45.

1880. *Corbicula iravadica* Blanford, *Journ. As. Soc. Bengal*, XLIX, pp. 221, 222.

1889. *Corbicula irawadica*, T. Canefri, *Ann. Mus. Civ. Stor. Genova*, (2) VII, p. 355.

1890. *Corbicula Iravadica*,[2] Paetel, *Cat. Conch. Samm.* III, p. 102.

1899. *Corbicula irawadica*, von Martens, *Arch. Naturgesch.* pp. 47, 48.

1915. *Corbicula iravadica*, Preston, *Faun. Brit. Ind. Freshw. Moll.* pp. 216, 217.

As is clear from the synonymy given above, the species was not described by Blanford till 1880, though it was referred to in literature much earlier as *C. iravadica* and *C. pisum*; two names under which it was indiscriminately distributed by the author. A poor figure of the species was also published by Hanley and Theobald.

The species is very variable, and following Blanford's and Nevill's manuscript names in the collection in the Indian Museum I was originally inclined to separate it into distinct forms, but intermediate forms between the two types are found in the same area. I am, therefore, of opinion that the differences are not constant and are due to local conditions and age.

Blanford's description of the species is fairly complete, but the following additional points may be noted.

The shells are equivalve, ventricose, rather thin, concentrically striated, the striae being very minute and almost miscroscopic but regular; on some shells the striae are specially developed and as a result appear like raised ribs; the arrangement of the ribs, however, is never regular, the spaces between them being of the same width; on several specimens they are absent. The umbonal region is prominent; the lunule and the escutcheon regions are distinctly marked off by a darker colour, and in the middle of the escutcheon the two valves are raised as a narrow wing. The anterior slope is only slightly arched; the lower margin is dinstinctly arcuate behind the middle; the posterior

[1] Sowerby, *Conch. Icon.*, XX, *Cyrena*, fig. 97 (1877).

[2] In Paetel's Catalogue issued in 1873 this species is listed as *C. Blanfordi* Dkr. from Ava; this is, however, only a manuscript name.

margin is short and evenly arched. The nymphs are finely roughened. The ligament is very prominent.

Measurements in millimetres.

	Ava					Pegu	Bhamo		Thyetmyo
Length	11·3	10·2	11	10·4	8	9·2	12·8	10·2	10
Maximum breadth	9·1	8	8·2	8·3	6·5	7·5	10·5	6·1	8·2
Thickness ..	6·5	6	6·3	6	5	5·3	7·3	6	5·9

Remarks.—C. blanfordiana Nevill, which was never described, is also a synonym of this species All the specimens I have seen are from Upper Burma, round Ava.

Corbicula arata (Sowerby).

(Pl. IV, figs. 17—20.)

1876. *Corbicula arata* B (*mss.* name) Theobald, *Cat. Land Freshw. Shells Brit. Ind.* p. 44.

1877. *Cyrena arata*, Sowerby, *Conch. Icon.*, XX, *Cyrena*, pl. vii, fig. 93.

1883. *Corbicula arata*, Paetel, *Cat. Conch.* p. 216.

1890. *Corbicula arata*, Paetel, *Cat. Conch. Samm.* III, p. 100.

1915. *Corbicula arata*, Preston, *Faun. Brit. Ind. Freshw. Moll.* pp. 222, 223.

The description of this species by Sowerby, based on a single specimen, is not sufficiently detailed for the identification of the species and I, therefore, redescribe the species below. I have before me a specimen from the collection of the British Museum (Natural History), London, from Tenasserim labelled " Corbicula arata Benson Mss. typical-*fluminea* Müll," and three specimens belonging to the Indian Museum apparently presented by Blanford, who also sent the specimens to Hanley and from which the species was described by Sowerby.

Shell thin, trigonal, greatly inflated, obliquely and narrowly truncate, and compressed posteriorly, extended and rounded anteriorly, upper margin greatly arched ; lower margin evenly rounded in the anterior half to two-thirds, then becoming suddenly angulated and curving up to meet the posterior side. Beaks high, inflated, situated in the anterior half, pointing forwards and inwards. Posterior ridge narrow but sharp, anterior ridge not prominent. Sculpture consisting of relatively fewer, but distinctly raised concentric ridges which become somewhat angulate in the posterior third of the shell. Colour deep shining yellow. Interior creamy white or purple in adults, young shells either creamy white or with two purplish stripes running from the umbones to the ventral margin. Pallial line and muscle scars marked but not greatly impressed. Three cardinal teeth in each valve, none of which is divided ; the anteriormost of the right valve very reduced and almost in line with the outer anterior lateral. Right valve with 2 laterals anteriorly and two posteriorly, of these the posterior outer short and weakly developed ; left valve with only a single lateral anteriorly and posteriorly ; only the inner laterals of the right valve and the laterals of the left valve crenulated. Nymphs finely roughened.

Measurements in millimetres.

Length	18·8	17·9	12·6	9·4
Maximum height	15	15	10·1	7·2
Thickness	11·4	12·1	7·8	5·4

Distribution.—The type was described from Tenasserim, Lower Burma, and the specimens, which I have seen, are all from the same locality.

Remarks.—The species is distinguished by its rather thin and greatly inflated shell, and the comparatively few distantly situated but raised ridges. The specimens referred to as *Corbicula Larnaudei* Prime by von Martens from Mee, a tributary of the Irawaddi in Upper Burma, probably belonged to this species. The distribution is, however, different and it is not possible to understand von Martens's remarks " mit flachen breiten Rippen, so breit order auch breiter als ihre Zwischenraume." Von Martens is certainly wrong in including *C. secaduilabris*, a manuscript name of Benson, under this species.

Corbicula solida Clessin.

1887. *Corbicula solida*, Clessin, *Mal. Blätt.* (n. f.) IX, p. 76, pl. iii, fig. 4.

1915. *Corbicula solida*, Preston, *Faun. Brit. Ind. Freshw. Moll.*, pp. 215, 216.

I have not seen any specimens other than the type-shell of the species in the Morelet Collection in the British Museum (Natural History), London. The description of the species by Clessin is fairly complete, but the following notes may prove useful for the identification of the species.

The shell is small, thick, triangular, almost as high as broad, regularly and finely striate, anterior side rounded, posterior subtruncate, dorsal margin angulate, ventral very arched. The colour of the periostracum is light olive green.

The species is known from the unique type from Ceylon, exact locality not stated. It appears to be allied to *C. striatella* (Deshayes).

Corbicula subnitens Clessin.

(Pl. III, fig. 13.)

1887. *Corbicula subnitens*, Clessin, *Mal. Blätt.* (n. f.) IX, p. 77, pl. iii, fig. 5.

1915. *Corbicula subnitens*, Preston, *Faun. Brit. Ind. Freshw. Moll.*, p. 215.

The type-specimen of this species is not available either in the Clessin collection in Stuttgart or in the Morelet Collection in the British Museum (Natural History), London. I have before me a single specimen from Ceylon, exact locality not stated, from the Nevill collection from which also the type of the species originated. This specimen though it differs in some respects from the description of *C. nitens* by Clessin is, in my opinion, to be assigned to it. I give below a description of this shell and reproduce photographs of it on plale III. The specimen is of a fair size being 21·4 mm. × 18·2 mm. × 12 mm.; moderately thick-shelled ; somewhat triangular, elongated in the antero-posterior direction, moderately swollen, subequilateral with the umbones situated about the middle ; upper margin angulate-arched ; anterior side rounded, posterior side broadly rounded, lower margin arcuate, but arching up behind the middle to meet the posterior side. Shell dark olive-yellow, distinctly marked, thick and not greatly raised ; concentric and regular ribs ; the ribs are absent in the lunular region and very minute in the region of the escutcheon. Umbones eroded, showing traces of fine ribs. Nacre dull whitish with traces of violet. Lateral teeth subequal, rather thin and sharp with the usual serrations ; ligament broad and prominent.

Remarks.—The species is allied to *C. striatella* (Deshayes), but the shell is thinner, more triangular and the hinge is not so strongly developed.