No. II.—On the Upper Limestones of North Ayrshire, as found in the District around Dalry, and elsewhere.

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Introduction.—The Upper Limestones of North Ayrshire are divided into four distinct series of beds by the intervention of shales and flaggy sandstones, giving to each an independent character, both physically and in extent of area. They are all rich in fossil remains, but, with the exception of the lower bed of the series, they are of small commercial value, and the collector has not therefore the opportunity of searching quarries, as in cases where the limestones are more extensively worked. However, from the openings made by, and the sections exposed in, the various water-courses, a fair collection of their fossils has been obtained, and to all appearance the series are as rich as the Lower Limestone beds, both in quantity and variety of their organic remains. They differ, however, from them in the proportions they contain of the same classes of fossils, as for instance corals and crinoids, in which the Upper beds are poor both in genera and species when compared with the rich deposits of the Lower Limestones. Full lists of the fossils are appended to this paper.

Highfield Limestone.—The first, or lower, bed of the series is a deposit of limestone and calcareous shales known as the Highfield Limestone, from being largely wrought at the place of that name. From a similar reason it is also known in a neighbouring locality as the Swindridge Limestone. It is divided from the Lower Limestone series by about 120 fathoms of strata, which hold the workable coals and ironstones of the Lower Limestones (see *Transactions*, vol. vii., page 86), and lie from 15 to 25 fathoms above the Borestone, or Dalry, main coal. It is of fine texture and is well adapted for iron smelting. Its general thickness is 6 feet, but it is found as thin as 3 feet, seldom rising above the one or falling below the other.

It is found throughout the parish of Dalry, and crosses to the south and south-east of Beith, near Barr. It appears in the Caldwell coalfield, cropping out on the north-east of Lochlibo, near Shelford, Neilston. It crosses into Ardrossan on the south-west, near Girthill, and is seen at the railway station, Ardrossan, nearly on edge and close to the Castlehill. It is found on the south of

the large fault which runs from Ardrossan up the Dusk and Lugton valleys into Renfrewshire. Crossing into Kilwinning parish, it runs south-east by Goldcraig, Lylestone, and Clonbeith into the south of Stewarton parish. In all these places it has been extensively wrought, and is still worked at the latter place. It is found too in the parish of Galston, and is largely wrought at Moscow and also at Cessnock. Some doubts have been expressed as to whether the limestone worked at these places is the continuation of the Highfield bed, the line of outcrop being broken; but, as it is on the same horizon and bears the same physical and fossiliferous character as the Dalry deposit, it may be accepted as the same until it is proved to be different.

This limestone is almost unfossiliferous,—very few fossils of any kind being found in it,—but both below and above it are associated deposits of calcareous shales very rich in fossils. These shales, with the limestone, have a thickness generally of 12 feet, though this is not persistent, rising sometimes above, and in other places falling below it. The following section taken from the Rye and Caaf Waters, Dalry, shows the deposits at their greatest thickness; the limestone with the shales below it are taken from the Caaf, and the shales above the limestone from the Rye.

	Ft.	In.
1. Shale, calcareous,	2	7
2. Limestone, band,	0	5
3. Shale, highly calcareous,	3	9
4. Shale, calcareous,	2	3
5. Limestone, Highfield,	4	3
6. Shale, calcareous,	3	10
7. Shale, slightly calcareous,	5	1
8. Limestone, band, coarse,	0	10
	23	0

The fossils are more abundant in the shales which partake of a calcareous character than in those which are less so.

The more abundant organisms are—*Productus latissimus*, J. de C. Sow.; *Nucula gibbosa*, Flem.; *Leda attenuata*, Flem.; *Euomphalus carbonarius*, Sow.; *Bucania* (*Bellerophon*) *Urei*, Flem. Of the other shell remains, which are given in full in my list at the end of this paper, one genus or species may be very abundant in one locality and very rare in another, as for instance at Swindridge, Dalry, where *Aclisina* (*Murchisonia*) *striatula*, De Kon., is

very abundant, while at Girthill, Ardrossan, it is rare, and *Pleurotomaria monilifera*, Phill., is abundant. With this variation in distribution the same classes of shells are found throughout the whole extent of the deposits. Crinoid remains are found in the highly calcareous shales of the deposit, while corals, though present, are rather rare. Fish remains, in scales and teeth, have been found at Swindridge, Highfield, and Goldcraig, though they do not appear to be very common. Still, I believe, from what the small openings in the series have produced, that with the same opportunities of collecting as in the quarries of the Lower Limestone series, an equal abundance of organic life would be found here.

These deposits, which I here place as the lowest of the Upper Limestone series, have a more extended range than any other beds of the series. Although much broken up and full of wants, they are found in their detached basins nearly co-extensive with the Lower Limestone series in North Ayrshire; their line of outcrop being found within that series, but running generally in a parallel line to it.

Hundred Fathom Limestone.—In the pits which lie to the west and south-west of the village of Dalry there is found a coarse limestone, with associated shales, which the pit sinkers call by the above name, from a belief that it lies 100 fathoms above the workable clayband ironstone. It is of no commercial value, and to the palæontologist, as a field for collecting fossils, it is useless. The only surface section with which I am acquainted is one in the Braidly Burn, Dalry, close to a pit that lies to the north of the Cemetery, where it is thrown up by a fault, or break, in the strata, and the following section, taken in ascending order, is exposed :—

	Ft.	In
1. Limestone, fossiliferous,	—	7
2. Shale, unfossiliferous,	2	6
3. Limestone, fossiliferous,	4	3
4. Shale, part fossiliferous,	6	6
	13	10

The few fossils that can be picked up are, from atmospheric influences, useless for the cabinet, but not destroyed beyond identification. The limestones and the lower half of the higher shale

hold the following shell remains:—*Athyris ambigua*, Sow.; *Orthis resupinata*, Mart.; a few species of *Productus*, and *Spirifera trigonalis*, Mart.; but all very fragmentary and fragile. Indeed, but for making my paper as exact as possible in giving the calcareous beds of the upper series, it was scarcely worth while to include this deposit as one of the Upper Limestones. It appears to be of very limited extent, and is wholly confined to a small area around Dalry. It lies 11 fathoms above the Highfield Limestone.

Lower Linn Limestone.—Between the Hundred Fathom Limestone and that known as the Lower Linn Limestone lie about 24 fathoms of flaggy sandstones and arenaceous and clay shales, holding a few badly-preserved plant remains, but otherwise of no value. Resting upon these strata is the Lower Linn Limestone, which, in its greatest thickness, with its associated shales, is 36 feet. This measurement is taken from the pits on the Linn and at Langlands; but good sections of the shale, below the limestone, the latter being reduced in thickness, are to be seen on the Caaf Water both above the bridge near Linn and farther down the stream.

The shale here, lying below the limestone, and which has a thickness of about 6 feet, rests upon a thin seam of coal, and is very fossiliferous; but the fossils are very fragile from exposure to the weather, and few cabinet specimens are found. The most abundant are *Athyris ambigua*, Sow.; *Orthis resupinata*, Mart.; *Productus latissimus*, J. de C. Sow.; *P. longispinus*, Sow., var.; *P. semireticulatus*, Mart. Fragments of *Phillipsia Eichwaldia*, Fisch., are found, but appear to be rare.

Sections of this shale, holding the same fossils, are found in the Rye Water. Resting upon it lies the Lower Linn Limestone, reduced to 13 feet in thickness, and consisting of a series of thin-bedded limestones, being little better than indurated calcareous shales, full of nodules of carbonate of lime, the beds running from 6 inches to 18 inches in thickness. Being of no commercial value, they are not worked, and hence there is no good opportunity of testing their fossiliferous character. In the sections exposed in the Caaf and Rye Waters, Dalry, organic remains are rare; while in those in Monkcastle Glen and Lugton Water, Kilwinning, and on the sea-shore at Saltcoats, they are entirely absent. In the section on the Caaf a few fossils are found in the nodules of purer limestone, which are got by breaking up those pieces that have

become disintegrated and have fallen into the water. It is worthy of notice that a specimen of a large variety of *Spirifera trigonalis*, Mart., which I presented to the late Dr. Thomas Davidson, was found in one of these nodules. Other specimens of the same fossil, of good size, have been found, but all of the common type. These, with a few fragments of *Productus*, a few badly-preserved specimens of *Aviculopecten*, and a fragment of a Trilobite, are all that have come under my notice.

Upper Linn Limestone.—At Linn, and in the pits around it, 8 fathoms of shales and flaggy sandstones divide the Lower and Upper Linn Limestones. In other localities, and even 1 mile east of Linn, the shales are much thinner, while at Saltcoats they are absent and their place is filled up by about 40 feet of volcanic rocks. This deposit is of similar character physically to that of the Lower Linn beds. It consists of a series of thin bedded limestones of no commercial importance. The nodules, which are of a purer carbonate of lime, make up nearly one half of the beds, and are sometimes burned by the farmers on whose ground the beds crop out, as at Bourtrapping, Dalry. They make a fair lime for farming purposes; elsewhere they are only worked for road metal.

The following is a section as found at Linn Spout, Dalry, from which these beds take their name, but taken upwards:—

	Ft.	In.
1. Coal, from 2 feet to	5	0
2. Shale, indurated, ...	1	3
3. Limestone, ...	1	2
4. Shale (full of shells of *Estheria punctatella ?*), .	0	8
5. Limestone, ...	1	0
6. Shale, very fossiliferous, ...	5	9
7. Limestone, Upper Linn, ...	35	0
	49	10

These Upper Limestones, with the exception of the Highfield or Lower beds, have a limited extension, being mostly confined to a small area around Dalry. They also extend into the north of Kilwinning parish, and are found in the same parish on the Lugton Water much reduced in thickness. I was informed by the late Mr. Danks, mineral borer, that he had bored through them in the south of Stewarton parish where they had a thickness of 30 feet, but I question the correctness of this information.

Two beds of limestone are found interbedded among the volcanic rocks on the shore at Saltcoats, and these may be the Linn limestones, though it is doubtful. However, they are on the same horizon, and as the section on Lugton Water is contiguous to the volcanic rocks there, these beds may be an extension of the Linn limestones, as the beds of limestone between Ardrossan and Saltcoats, which the Survey put down as uncertain Linn, are the beds of the Lower Limestone series thrown up by a large fault.

The section exposed at Saltcoats, in the harbour, and north of the old Salt Pans, is as follows :—Coal, about five feet; volcanic, "white horse," 2½ feet; volcanic, variety of melaphyre, about 30 feet; limestone, 6 feet; volcanic tuffs, etc., about 40 feet; limestone, 12 feet; volcanic tuffs, dolerites, etc., about 50 feet; and above these lie the Upper Coal measures of this part of Ayrshire. The two beds of limestone, which are much altered by their contact with the volcanic rocks, appear to be unfossiliferous, but otherwise they are of similar character to the beds at Linn Spout. If they are not a continuation of those beds the Linn limestones have no place on the Ardrossan and Saltcoats shore.

Returning to the sections opened at Linn Spout, Glencart, Dalry, and Monkcastle Glen, Kilwinning, where the upper beds are well exposed, being worked in the two former places, they are found to be of the same physical character as the Lower Linn beds, but are richer in organic remains. From their nodular character, these limestones disintegrate very rapidly, and in the glen at Linn Spout from this cause they have a broken and shivery appearance.

The men in charge of the pits around Dalry hold an opinion that the shales between the upper and lower Linn series of beds run off, and that the two run into one bed, as two beds of coal sometimes do. This idea, however, is unworthy of notice, but I refer to it as the officers of the Geological Survey have adopted it, in paragraph 28 of the Explanation to sheet 22 of the Ayrshire Survey. It is quite true that to the east of Dalry the lower series of beds run off, only one bed being found, but this is the upper series of beds alone, as may be seen from the following fact. In the Linn and Langland pits, and at Linn Spout, on the bottom of the upper series, is a band of hard sandstone full of shell remains. At Bourtrapping and at East Bankend, where only a part of one bed is on, it is still found attached to the bottom of the beds. Now, if the two series of beds had run together, this band would have

been found at the junction of the beds, just resting upon the top of the lower bed; but this is not the case. I think therefore that there is sufficient proof that the two series do not run together as the Survey officers suppose.

As already mentioned, the upper series of beds, wherever exposed in the neighbourhood of Dalry, are rich in fossils, but, as in the Lower Linn beds, they are mostly confined to the nodules of purer limestone, few being found apart from them. At Linn the nodules are very hard, and the shell remains are much crushed; at Bourtrapping they are not so much crushed, and good cabinet specimens are more easily procured.

The more common fossils, both at Linn Spout and Bourtrapping, are as follows. Corals, and broken stems and arms of Crinoids are found, though not abundantly, and in some of the beds appear to be absent. Polyzoa are got in some of the beds, though not well preserved. In a few feet of the beds, on a horizon about 6 feet from the bottom, remains of the Trilobite, *Phillipsia Eichwaldia*, Fischer, are abundant; but in the other part of the beds they are all but absent. The Brachiopoda are abundant, the more plentiful being *Athyris ambigua*, Sow., *Orthis resupinata*, Mart.; *Productus cora*, D'Orbigny; *P. longispinus*, Sow.; with the variety *lobatus*, Sow.; *P. latissimus*, J. de C. Sow., *P. punctatus*, Mart.; *P. scabriculus*, Mart.; *P. semireticulatus*, Mart., and the variety *P. concinus*, Sow.; *Rhynchonella pugnus*, Mart.; *Rhyncopora Youngii*, Dav. (this little shell is rather rare, and is generally found in small nests both at Linn Spout and Bourtrapping); *Spirifera trigonalis*, Mart.; *Martinia glabra*, Mart.; *M. Urei*, Flem.; *Reticularia lineata*, Mart.; *Dielasma hastata*, Sow., with its varieties, *sacculus*, Mart., and *vesicularis*, de Kon.; *Streptorhynchus crenistria*, Phill. The Lamellibranchs are rather rare in the beds, but a specimen is occasionally met with, as *Aviculopecten interstitialis*, Phill.; *A. orbicularis*, M'Coy; *Nucula gibbosa*, Flem.; besides a few others given in the list appended to this paper.

Few Gasteropods are found by hammering in these beds, although by careful manipulation some may be got. The greater number named in the following list were found by washing the *debris* obtained in cavities in the limestone formed by the dissolution of the purer carbonate of lime in the nodules through the infiltration of water containing carbonic acid. The Cephalopods are also badly represented. In a bed near the top of the series, at

Linn Spout, a number of *Orthoceras* are found, but too sorely crushed for certain identification, and in the hard sandstone band at the bottom of the series, *Nautilus nodiferus*, Armst., is found, as well as a few fragments of others. Fish remains have also been got, as the teeth of *Petalodus Hastingsiæ*, Owen; *Tomodus convexus*, Ag.; a few fragments of *Helodus didymus*, Ag., and one specimen of *Helodus planus*, Ag. They all appear to be rare, but the probability is that, with the opportunities afforded by more extensive working, these Upper Limestone series of beds would yield to the collector as rich a harvest of fish remains as the beds of the Lower Limestone series have done.

In conclusion, I have once more the greatest pleasure in thanking my friend Mr. John Young, F.G.S., of the Hunterian Museum, Glasgow, for the kind assistance he has afforded me in the identification of fossils, and in the correction of the nomenclature—a kindness of which I have experienced the benefit for now a quarter of a century. Without the help of his extensive palæontological knowledge, the lists of fossils appended to this and to previous papers of mine on the Carboniferous strata of the Beith and Dalry districts could not have had the scientific value which I hope they possess; and I therefore take this opportunity of acknowledging the help I have received from him, and which has alway been given with a readiness as hearty as it is valuable.

For the list of fossils see the following page.

LIST OF FOSSILS IN THE UPPER LIMESTONES OF NORTH AYRSHIRE.

	Highfield Limestone.			Lower Linn Limestone and Shale.	Shale below Upper Linn Limestone.	Upper Linn Limestone.		
	Swindridge.	Goldcraig.	Girthill.			Bourtrapping.	Glencart.	Linn Spout.
Actinozoa.								
Chætetes (*Alveolites*) *septosa*, Flem.								x
Cyclophyllum fungites, D. and T.						x	x	x
Fistulipora incrustans, Phill.				x				x
Heterotrypa tumida, var. *miliaria*, Nich.	x			x				x
Lonsdalia floriformis, Mart.							x	x
,, *rugosa* (?), M'Coy.						x		x
Zaphrentis patula, Mich.	x	x		x	x			x
Echinodermata.								
Archæocidaris Urei, Flem.	x		x					
Actinocrinus, sp. (?).	x	x						
Poteriocrinus crassus, Miller.	x		x		x			x
Cyathocrinus ellipticus, Phill.			x					
Pisocrinus globularis, de Kon.			x		x			
Annelida.								
Serpulites membranaceus, M'Coy.						x		x
Crustacea (Ostracoda).								
Bairdia plebeia, Jones and Kirby.	x							
Cytherella concinna, J., K., and B.	x							
,, *obliquata*, G. S. Brady.	x							
Leperditia Okeni, Munster.	x							
Kirkbya (*Beyrichia*) *radiata*, J. & K.	x							
,, *Eichwaldiana*, J. and K.	x							
Crustacea (Trilobita).								
Phillipsia Eichwaldi, Fischer.						x	x	x
,, ,, var. *mucronata*, M'Coy.	x							
Crustacea (Phyllopoda).								
Estheria (?) *punctatella*, Jones.					x			
Polyzoa.								
Fenestella tuberculo-carinata, Ether. jun.								x
Glauconome elegans, Y. and Y.								x

	Highfield Limestone.			Upper Linn Limestone.				
	Swindridge.	Goldcraig.	Girthill.	Lower Linn Limestone and Shale.	Shale below Upper Linn Limestone.	Bourtrapping.	Glencart.	Linn Spout.
Brachiopoda.								
Athyris ambigua, Sow.	x	x	x	x	x	x	x	
,, *Royssii* (?), Lév.				x	x		x	x
Chonetes Laguessiana, de Kon.	x				x			x
Discina nitida, Phill.								x
Orthis Michelini, Lév.				x	x			
,, *resupinata*, Mart.	x	x	x	x	x	x	x	x
Productus cora, D'Orb.								x
,, *giganteus*, Mart.		x						
,, *longispinus*, Sow. (var.)	x				x	x	x	x
,, *latissimus*, J. de C. Sow.	x	x	x	x	x	x	x	x
,, *mesolobus* (?), Phill.								x
,, *scabriculus*, Mart.		x		x	x	x		x
,, *semireticulatus*, Mart.	x	x		x		x	x	x
,, *sinuatus*, de Kon.						x		x
,, *Youngianus*, Dav.				x				
Rhynchonella pugnus, Phill.	x	x	x		x	x	x	x
Rhynchopora Youngi, Dav.						x		x
Spirifera trigonalis, Mart.	x	x	x	x	x	x	x	x
Martinia (*Spirifera*) *glabra*, Mart.						x		x
,, ,, *Urei*, Flem.					x	x		x
Reticularia (*Spirifera*) *lineata*, Mart.						x	x	x
Streptorhynchus crenistria, Phill.	x	x	x	x	x	x	x	x
,, ,, var. *radialis*, Phill.	x							
,, ,, var. *senilis*, Phill.						x		x
Strophomena rhomboidalis, Wahl.								x
,, var. *analoga*, Phill.								x
,, var. *distorta*, J. de C. Sow.						x		
Dielasma (*Terebratula*) *hastata*, Sow.						x		x
,, ,, *sacculus*, Mart.						x		x
,, ,, *Gillingensis*, Dav.						x		x
,, ,, *vesicularis*, de Kon.						x		x
Lamellibranchiata (Monomyaria).								
Anomia antiqua, Sow.					x			x
Avicula concinna, M'Coy.					x			
,, *decussata*, M'Coy.					x			
,, *lævigata*, M'Coy.				x				
Aviculopecten cælatus, M'Coy.					x			
,, *concentricostriatus*, M'Coy.					x			x
,, *consimilis*, M'Coy.						x		x
,, *interstitialis*, Phill.					x			
,, *ovatus*, M'Coy.							x	
,, *duplicicosta*, M'Coy.								x
Entolium (*Pecten*) *Sowerbii*, M'Coy.					x			
Posidonomya corrugata, Ether.				x				
Pteronites regularis, Ether.					x			

	Highfield Limestone.			Lower Linn Limestone and Shale.	Shale below Upper Linn Limestone.	Upper Linn Limestone.		
	Swindridge.	Goldcraig.	Girthill.			Bourtrapping.	Glencart.	Linn Spout.
Lamellibranchiata (Dimyaria).								
Arca arguta, de Kon.					x			x
Schizodus (*Axinus*) *carbonarius*, Portl.					x			
,, ,, *deltoideus*, Phill.					x			
Cardiomorpha oblonga, Sow.					x			
Conocardium armatum, Phill.								x
Cypricardia striato-lamellosa, de Kon.					x			
Edmondia oblonga, M'Coy.			x		x			
Nuculina (*Leda*) *oblonga*, M'Coy.					x			
,, ,, *attenuata*, Flem.	x		x		x			
Leptodomus costellatus, M'Coy.	x				x			
Nucula gibbosa, Flem.	x	x	x		x	x	x	x
,, *acuta*, Sow.					x			
,, *lineata*, Phill.							x	
Modiola elongata (?), Phill.	x				x			
,, *divisa*, M'Coy.					x			
Allorisma (*Myacites*) *sulcata*, Flem.	x		x		x			
Sanguinolites subcarinatus, M'Coy.				x				
Ungalina, sp. (?).							x	
Venus (?), sp. (?).							x	
Gasteropoda.								
Capulus (*Platycerus*) *vetusta*, Sow.							x	
Entalis (*Dentalium*) *priscum*, Goldf.	x		x		x		x	
,, ,, *Dalryense*, J. Young.	x							
,, ,, *inornatum*, M'Coy.	x				x		x	
,, ,, *Scoticum*, J. Young.	x							
Euomphalus acutus, Sow.								x
,, *serpula*, de Kon.							x	
Schizostoma (*Euomphalus*) *carbonarius*, Sow.	x		x		x		x	
Loxonema Lefebvrei, Lév.								x
,, *rugifera*, Phill.						x	x	
,, *scalaroidea*, Phill.	x							
,, *brevis*, M'Coy.			x		x			
Macrochilina (*Macrocheilus*) *imbricatus*, Sow.	x						x	
,, ,, *acutus*, Sow.	x				x		x	
Polyphemopsis(*Macrocheilus*)*fusiformis*, Sow.	x						x	
Natiria (*Naticopsis*) *lirata*, Phill.							x	
Naticopsis plicistria, Phill.					x			
,, *variata*, Phill.	x		x		x		x	
,, *canaliculata*, M'Coy.								x
Tychonia(*Naticopsis*)*Omaliana*, de Kon.	x							
Aclisina (*Murchisonia*) *striatula*, de Kon.	x		x				x	
Pleurotomaria altavittata, M'Coy.					x			

	Highfield Limestone.			Lower Linn Limestone and Shale.	Shale below Upper Linn Limestone.	Upper Linn Limestone.		
	Swindridge.	Goldcraig.	Girthill.			Bourtrapping.	Glencart.	Linn Spout.
Gasteropoda—*Continued.*								
Agnesia (*Pleurotomaria*) *acuta*, Phill.							x	
,, ,, *contraria*, de Kon.			x					
Ptychomphalus (*Pleurotomaria*) *monilifera*, Phill.	x		x		x			
,, ,, *Frenoyana*, de Kon.							x	
Baylea (*Pleurotomaria*) *Yvanii*, Lév.							x	
Mourlonia ,, *granulata*, de Kon.							x	
,, ,, *interstrialis*, Phill.							x	
Strobæus (*Elenchus*) *antiquus*, M'Coy.							x	
,, ,, *subulatus*, M'Coy.							x	
Turbonitella (*Turbo*) *biserialis*, Phill.							x	
Microdoma (*Trochus*) *biserratus*, Phill.	x							
Niso Smithiana, J. Young, sp. nov.							x	
Polyphemopsis (*Eulima*) *Phillipsiana*, de Kon.	x							
Heteropoda.								
Bucania (*Bellerophon*) *cornu-arietis*, Sow.		x						x
,, ,, *decussata*, Flem.	x		x	x	x			
Waagenella ,, *Dumontii*, D'Orb.								x
Euphemus ,, *Urei*, Flem.	x		x	x	x			
Porcellia puzo, Lév.							x	x
Cephalopoda.								
Orthoceras attenuatum, Flem.		x			x		x	x
,, *cinctum*, Sow.			x		x		x	x
,, *undatum*, Flem.					x			
,, sp. (?).							x	
,, *cylindraceum*, Flem.		x	x					
Cyrtoceras Gesneri, Mart. (fragment).							x	
Goniatites striatus, Sow.	x		x					
Nautilus nodiferus, Armst.						x	x	x
,, *quadrata*, Flem.		x						x
,, sp. (?).								x
Pisces.								
Tomodus convexus, Ag. (Syn. *Cochliodus magnus*, Ag.)	x	x						x
Deltodus, sp. (?).	x							
Helodus didymus, Ag.		x	x					x
,, *lævissimus*, Ag.		x				x		x
Acrolepis Rankinei, Ag.	x							
Petalodus Hastingsiæ, Owen.	x	x				x	x	x
Pœcilodus, sp. (?).							x	
Cladodus mirabilis, Ag.								x

Note.—I am indebted for the greatest number of the *Gasteropoda* found in the Glencart column to the list by Mr. John Young, F.G.S., in "Notes on the Fossils found in a thin bed of impure limestone at Glencart, near Dalry, Ayrshire." *Proc. Nat. Hist. Soc. Glasgow*, Vol., V. p. 234 (1883).