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The Characeae of the Rijksherbarium at Leiden.

The Rijksherbarium, or the “Leiden branch of the Nationaal Herbarium Nederland” as it is now called, harbours the major collection of Characeae in the Netherlands. With over 8000 specimens of Characeae (about 7600 pressed and c. 600 in fluid) it is also one of the world’s greatest collections of Characeae. An important part of the collection are the 215 type specimens with 57 holo-, lecto- and neo-types and many iso-, para- and syn-types.

Pressed specimens are mounted on sheets and stored in boxes, fluid collections are stored in spirit in glass or plastic bottles. Specimens are arranged alphabetically on species names.

Many of the older specimens have annotations by A. Braun and R.D. Wood.

Relevant data on all collections are stored in a database; moreover typecollections are completely digitalised (plants, labels, annotations) as part of the registration of types in the “Nationaal Herbarium”.

Statistical information extracted from the database is given in Tables 1 & 2.

As can be seen in Table 1 recent (after 1950) specimens are nearly all from the Netherlands. Old (before 1900) specimens are mostly from Europe, nearly all are from Germany (c. 1000) and Sweden (c. 650). The remaining come from all European countries. Recent European specimens are from all over Europe, however more than half come from only 3 countries: Ireland (107 specimens), France (81), Estonia (69).

Many recent collections from North America, Australia and the Pacific were collected by R.D. Wood. The recent specimens from Africa are nearly all from Southern Africa.

In Table 2 the distribution of genera is given. Protochara includes *Chara australis* and *Chara corallina*.

As is to be expected Chara’s are dominating in the collections from Europe, while in Australian and Pacific collections Nitella’s are preponderant.

Nearly all Chara-species are present in the collection. Missing are only a few taxa from Russia and China. Also most Nitella and Tolypella species are in the collection, however some recently described Nitella and Tolypella taxa are still missing.

Tab 1. Collection dates of Characeae in the Rijksherbarium for different parts of the world.

	oldest specimen	before 1900	1900-1950	after 1950	total
Netherlands	<i>Chara vulgaris</i> collected c. 1750 by A. van Royen	209	174	3624	4007
Europe (excl. Netherlands)	<i>Chara globularis</i> collected c. 1790 by D.W. Thuillier	2236	161	589	2986
Asia	<i>Chara corallina</i> collected 1828 by A. Zippelius	87	60	34	181
North America	<i>Chara braunii schweinitzii</i> collected 1832 by C.J. Moser	146	55	62	263
Central America & Caribbean	<i>Nitella opaca</i> collected 1840 by J. Linden	26	29	20	75
South America	<i>Nitella clavata</i> collected 1839 by Gaudichaud	17	15	14	46
Africa	<i>Chara vulgaris</i> collected 1832 by W. Schimper	31	25	61	117
Australia (incl. New Guinea & Papua)	<i>Chara australis</i> collected 1802 by R. Brown	26	14	449	489
New Zealand & Pacific Islands	<i>Chara oahuensis</i> collected 1831 by F.J.F. Meyen	11	4	103	118
Total		2789	537	4956	8282

Tab 2. Distribution of genera in the Rijksherbarium for different parts of the world.

	Chara	Lamprothamnium	Lychnothamnus	Nitella	Nitellopsis	"Protochara"	Tolypella
Netherlands	3110			609	107		181
Europe (excl. Netherlands)	2048	38	25	662	57		146
Asia	81			96	1	3	
North America	161			89			13
Central America & Caribbean	61			14			
South America	28			17			1
Africa	58	3		55			1
Australia (incl. New Guinea & Papua)	172	27	2	251		23	4
New Zealand & Pacific Islands	31	7		66		14	
total	5750	75	27	1859	165	40	346

Many European specimens were collected by A. Braun: 145 Chara, 10 Lychnothamnus, 61 Nitella, 4 Nitellopsis and 13 Tolypella specimens. Other important collectors are: C. Baenitz (64 specimens), O. Bulnheim (61 spec.), W. & H. Krause (172 spec.), O. Nordstedt (256 spec.), C.I & N.Y. Sandwith (97 spec.), P. Sydow (124 spec.), L.J. Wahlstedt (378 spec.), R.D. Wood (422 spec.).

From Japan some specimens are in Von Siebold's herbarium, the oldest being from 1869 (*Nitella gracilens*).

Of the 38 European *Lamprothamnium papulosum* specimens 8 were collected after 1950 in France, Great Britain and Denmark, one was collected in 1928 in Great Britain, the 29 older specimens are from France, Sweden, Norway, Denmark and Germany.

L. papulosum was also collected in northern Africa (one specimen from Algeria collected in 1904). The other two African specimens are *Lamprothamnium succinctum* from South Africa, they were collected in 1968.

From Australia both *L. papulosum* (16 specimens) and *Lamprothamnium macropogon* (8 specimens) were collected after 1950, 3 specimens of *L. macropogon* were collected by L. Preiss before 1900.

The specimens from the Pacific Islands are all *L. succinctum* from New Caledonia, one was collected by Balansa in 1869, 6 were collected by R.D. Wood in 1961.

The two Australian Lychnothamnus collections are from Queensland (collected in 1960 by R.D. Wood) and Papua (collected in 1962 by P. van Rooijen). European Lychnothamnus was, with two exceptions (one from Poland and one from Austria), collected before 1900 in Germany, Poland and Italy.

The one Nitellopsis from Asia is the type of *Nitellopsis sarcularis* from Lombok (Indonesia). Most European Nitellopsis collections are from before 1900. Only 12 were collected after 1950, these are from Germany, Poland, Rumania, Austria, Sweden and Portugal.

Although Tolypella is becoming rare in Europe still all species (*Tolypella canadensis*, *T. glomerata*, *T. hispanica*, *T. intricata*, *T. nidifica*, *T. normaniana*, *T. prolifera* and *T. salina*) were collected after 1950. Of the 28 specimens 12 are from France, the remaining come from Ireland, Germany, Norway, Sweden, Denmark, Poland, Hungary, Spain and Portugal.

The only Tolypella specimen from South America was collected by Herter in 1926 in Uruguay and is a *T. prolifera* var. *montevideensis*. However it doesn't look like a *Tol. prolifera*.

From north Africa comes a *T. hispanica* collected in Algeria by Chevallier in 1904.

The 4 specimens of *Tolypella glomerata* (determination by R.D. Wood as *T. nidifica* var. *glomerata*) from Australia are problematical. They were collected by Wood & Womersley in 1960 in Southern Australia, all are much different from European *T. glomerata* and might just as well belong to a separate Tolypella or even Nitella species. I have the same problem with the two collections of "*Nitella polycephala*" from Australia. Both were placed by R.D. Wood under *T. intricata*, neither confirms to that species.

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