

From	Observation	To
1	Body swollen: female wholly or partly inside a plant root	2
1	Body relatively slender: animals are mobile	9
2	The tail tip is recognizable	3
2	Tail tip not recognizable: body round, oval or pear-shaped	5
3	Body screw - or spiral-shaped, headframe not developed	4
3	Body C-shaped, headframe well developed	Rotylenchulus
4	Ventral excretion-gland well developed	Trophonema
4	Ventral excretion-gland inconspicuous	Anguinidae
5	Body length less than 250 um	Sphaeronema
5	Body length over 250 um	6
6	Body irregular, swollen, somewhat sausage- or kidney-shaped	Verutus
6	The body is regularly swollen, at most three times longer than	7
7	Deceased females forming brown cysts	Heteroderidae
7	Deceased females do not form cysts	8
8	Excretion pore before the median bulb	Meloidogynidae
8	Excretion pore behind median bulb	Sphaeronematidae
9	On the front side of the head, there is a spear or stylet which can protrude	10
9	Head without stylet or spear	63
10	Mouth with a tylenchid stylet: esophagus with a median bulb	11
10	Mouth with a dorylaimid spear: esophagus cylindrical or bottle-shaped, without a median bulb	35
11	Median bulb without valves	12
11	Median bulb with valves	17
12	Body extremely slender: ratio more than 60	Ecphyadophoridae
12	Body not as slender: a < 60	13
13	Vulva- position more than two body diameters before the anus	14
13	Vulva-position at most two body diameters before the anus	15
14	Esophageal glands within abutting bulb: glands do not overlap the intestine	Tylenchidae
14	Esophageal glands overlapping	Pseudhalenchus
15	Stylet curved, tail short, rounded. Gonads not developed	Dotylaphus
15	Stylet not curved, tail conical	16
16	Lip region is swollen, body length more than 2 mm	Funchiotonchiurn
16	Lip region not swollen, body shorter than 2 mm	Neotylenchidae
17	Procorpus and median bulb shade off into one other, terminal bulb strongly reduced, cuticle conspicuously annulated	18
17	Procorpus is separated from the median bulb by a constriction	21
18	Cuticle-annulation is not very coarse; constriction between the median bulb and terminal bulb is relatively long	Paratylenchidae

18	Cuticle annulation is conspicuously coarse, already visible at 40x magnification. The median bulb is a little constricted and immediately followed by the terminal bulb	19
19	The cuticle is two-layered; the outer layer looks like a second	20
19	Cuticle one-layered, body plump, heavily annulated, annules often ornamented	Criconematidae
20	Stylet knobs pointing forward, body plump, ratio $a < 20$ vulva position more than 90%	Hemicriconemoides
20	Stylet knobs rounded, body relatively slender, ratio $a > 20$ , vulva position at most 90%	Hemicycliophoridae
21	One gonad	22
21	Two gonads	29
22	Lip region with four setae	Atylenchidae
22	Lip region without setae	23
23	The median bulb is strongly muscled and conspicuously well developed, already distinct at low magnification; the dorsal Esophageal gland empties into the lumen of the esophagus within the median bulb	24
23	Median bulb normal. The dorsal Esophageal gland empties into the lumen of the esophagus just behind the stylet	26
24	Esophageal glands within the abutting bulb	Paraphelenchus
24	Esophageal glands overlap the intestine dorsally	25
25	Tail broadly rounded, stylet knobs absent	Aphelenchus
25	Stylet knobs present, when absent, then tail not broadly rounded	Aphelenchoididae
26	Headframe strongly developed, stylet conspicuously robust, tail commonly shorter than 2.5 anal body widths	Pratylenchidae
26	Headframe weakly developed, stylet slender, tail commonly longer than 2.5 times anal body width, seldom shorter	27
27	Tail relatively short, conical, spermatheca oval, phasmids absent	Anguinidae
27	Tail is long, drawn out, spermatheca round, phasmids near the vulva, dorsally from lateral field	28
28	Stylet long, more than 40% of the distance from anterior to median bulb	Tylodoridae
28	Stylet at most 30% of the distance from anterior to median bulb	Tylenchidae
29	Esophageal glands overlapping	30
29	Esophageal glands not overlapping	32
30	Headframe strongly developed	31
30	Headframe not developed	Dolichodoridae
31	Lip region low, flattened at anteriorly	Pratylenchidae
31	Lip region high, anteriorly round or flattened	Hoplolaimidae
32	Tail long, $c'$ more than 5, stylet knobs absent	Psilenchidae
32	Tail short, bluntly rounded, stylet with knobs	33
33	Headframe weak	Dolichodoridae

33	Headframe strongly developed	34
34	Lateral field with four lines	Pararotylenchus
34	Lateral field with six lines	Amplimerlinius
35	Long slender nematodes, longer than 2 mm, ratio $a > 60$ , spear greatly elongated, straight, longer than 55 $\mu\text{m}$	Longidoridae
35	Spear less than 55 $\mu\text{m}$ , or when longer, then nematode shorter than 2 mm and ratio $a < 50$	36
36	Spear relatively long and strongly curved, tail almost absent	Trichodoridae
36	Spear straight, tail present	37
37	Two gonads	38
37	One gonad reduced	56
38	The mouth cavity is large, broad and sclerotized	39
38	Mouth cavity inconspicuous	40
39	Mouth with four big teeth, on cavity wall there are several small teeth, tail long, head slightly offset	Paractinolaimus
39	Large teeth lacking, cavity wall with six sclerotized ribs tail short, head strongly offset	Carcharolaimus
40	Lip region offset by a deep constriction, lip region disc or sucker-shaped, lateral field usually with a conspicuous series of glands	41
40	Lip region, not disc- or sucker-shaped	42
41	Amphid aperture behind the constriction	Discolaimidae
41	Amphid aperture before constriction	Kochinema
42	Spear implanted in cavity wall	43
42	Spear axial	44
43	Spear implanted on the right sub ventral cavity wall	Nygolaimidae
43	Spear implanted on the. Dorsal cavity wall	Sectonema
44	Tiny plump nematodes, stylet consists of several parts but are usually invisible as a result of grains in the body. Cuticle often hangs loosely around the body	Diphterophoridae
44	Body without grains, cuticle normal	45
45	Broadened posterior part of esophagus surrounded by a muscle-sheath	Belondiridae
45	Oesophagus proximal not surrounded by a muscle-sheath	46
46	Spear surrounded by a membranous guiding tube, tail-cuticle obviously with several layers	Aporcelaimidae
46	Guiding tube not membranous cuticle-layers on tail not visible	47
47	Spear asymmetric, the dorsal side of spear longer than the ventral side, spear extension curved and surrounded by esophageal dense tissue	Dorylaimoides
47	Spear symmetric, or when asymmetric, spear extension not curved and not surrounded by dense Esophageal tissue	48
48	The proximal part of the esophagus is short, swollen pear like, transitioning from the intestine to the rectum near the vulva	Leptonchus

48	Prerectum shorter, esophagus not pear like swollen	49
49	Spear extension with knob-shaped outgrowths, body length less than 1 mm. Lip region cap-shaped offset	Tylencholaimus
49	Spear extension without knob-shaped outgrowths, when present, then lip region not offset cap-shaped or body length more than 1	50
50	Cuticle with longitudinal grooves, large nematodes	Dorylaimidae
50	Cuticle without longitudinal grooves	51
51	Cuticle inside mouth cavity thickened, guiding tube barrel-shaped	Chrysonematidae
51	Guiding tube, not barrel-shaped, cuticle not thickened	52
52	Tail long, conical or fine thread-like elongated	Thornenematidae
52	Tail short	53
53	Spear conspicuously long, 1/6 of esophagus length	Longidorella
53	Spear at most two lip diameters	54
54	Spear extension pear-shaped flanged	Enchodelus
54	Spear extension, when flanged, is not pear-shaped	55
55	Tail bluntly rounded, cylindrical, lip region not offset, spear extension slightly flanged	Thornia
55	Tail not cylindrical, spear extension not flanged	Qudsianematidae
56	Posterior gonad reduced	Tylencholaimus
56	Anterior gonad reduced	57
57	Broadened posterior part of the esophagus is surrounded by a muscle-sheath	58
57	The esophagus is not surrounded by a muscle-sheath	59
58	The tail length of more than five anal body widths	Oxydirus oxycephalus
58	Tail length less than 1.5 anal body widths	Axonchium
59	Spear extension with knob-shaped outgrowths	60
59	Spear extension without outgrowths	61
60	Spear with a dorsal strengthening, lip region offset	Tylencholaimellus
60	Spear without a dorsal strengthening, lip region not offset	Doryllium
61	Spear extension curved and surrounded by dense Esophageal tissue	Dorylaimoides
61	Spear extension is not curved nor surrounded by Esophageal dense tissue	62
62	Tail bluntly rounded, around oral aperture there are some light-refracting particles	Pungentus
62	Tail long or conical, no light-refracting particles around the oral aperture	Thornenematidae
63	Body caterpillar-like, with alternating broad and narrow annules, amphids vesicle-shaped	Desmoscolecidae
63	Body not caterpillar-like	64
64	Body asymmetrical right body half has a fine net structure and a series of fins or shields	Bunonematidae
64	Body symmetrical, without conspicuous fins or shields	65

65	Two gonads	66
65	One gonad	101
66	Esophagus with a bulb containing valves	67
66	Esophagus without bulb or, when swollen, without valves	81
67	Bulb halfway along the esophagus	68
67	The bulb at the base of the esophagus	70
68	Mouth cavity tubular and with stylet-knobs, esophagus tylenchid-	Tylopharynchidae
68	Mouth cavity without knobs	69
69	Mouth with a dorsal movable tooth, a large right- sub ventral tooth, a smooth or crenate left-sub ventral plate	Neodiplogasteridae
69	Mouth with an immovable dorsal tooth, right and lefthand metastom-swellings are identical	Diplogasteridae
70	Cuticle punctated	71
70	Cuticle not punctated	75
71	Head at anteriorly with a crown	Teratocephalidae
71	Head without crown	72
72	The anterior part of the esophagus, which surrounds the mouth cavity, is strongly offset by a constriction	Ethmolaimidae
72	The anterior part of the esophagus is not offset	73
73	Amphids are slit-like, inconspicuous	74
73	Amphid spiral-shaped, conspicuous	Achromadoridae
74	Mouth with one dorsal and some sub ventral teeth, esophagus distally symmetrical	Chromadoridae
74	The dorsal tooth is an extension of the Esophageal tissue, sub ventral teeth inconspicuous, esophagus distal asymmetrically	Hypodontolaimidae
75	Lip region with a crown	Teratocephalidae
75	Lip region without a crown	76
76	The valvular apparatus divided into two parts by a cross-groove	Desmodoridae
76	Valvular apparatus not divided	77
77	Esophageal intestinal valve oblong, conspicuous, amphid large and circular	Linhomoeidae
77	Esophageal intestinal valve not oblong, amphid not conspicuous	78
78	Mouth cavity normal cylindrical, caudal glands absent, amphids inconspicuous. Head setae absent	79
78	Mouth cavity at the base narrowing, caudal glands and spinneret present, amphid halfway along the mouth cavity circular or slit-like, wing-like expansions in neck region present or absent, head setae usually present	Plectidae
79	Mouth cavity walls not grown together, consisting of separate rings, esophagus with three subsequent swellings	Alloionematidae
79	Mouth cavity - walls are grown together, esophagus at most regularly swollen	80
80	Sub median lips hook-shaped bent	Diploscapteridae

80	Lips regular, not hook-shaped bent	Rhabditidae
81	The mouth cavity is a large, barrel-shape	82
81	Mouth cavity minute, oblong or absent	85
82	Mouth cavity with one or more movable teeth	Onchulidae
82	Mouth cavity without movable teeth	83
83	Tail thread- like elongated, mouth cavity little, with hardly sclerotized walls, head setae present	Prismatolaimidae
83	Tail never thread-like elongated, mouth cavity large with strongly sclerotized walls, head setae absent	84
84	The base of the mouth cavity is flat, esophagus - base with three vesicles, usually three identical teeth	Anatonchidae
84	The base of the mouth cavity is funnel-shaped, esophagus-base without vesicles, sub ventral teeth, when present, never identical to the dorsal tooth	Mononchidae
85	Cuticle punctated	86
85	Cuticle not punctated	88
86	Amphids absent, tail bluntly rounded. Mouth cavity tubular, cuticle - punctuation very fine. Ratio $b > 10$	Isolaimidae
86	Amphids spiral- or funnel-shaped. Ratio $b < 10$	87
87	Tail short, ratio $c$ more than 30	Choanolaimidae
87	Tail long, ratio $c$ at most 15	Cyatholaimidae
88	The base of the esophagus bulb - like swollen, valvular apparatus absent	89
88	The base of the esophagus is not swollen	92
89	Mouth cavity absent, amphids conspicuously large	Aphanolaimus
89	Mouth cavity present, amphids smaller than half the corresponding body diameter	90
90	Mouth cavity long, tubular, amphids inconspicuous, setae absent	Rhabdolaimidae
90	Mouth cavity not tubular, amphids obvious, head setae present	91
91	Ratio $c'$ more than 6	Odontolaimidae
91	Ratio $c'$ less than 6	Diplopeltidae
92	The mouth cavity is formed by a long, thin tube, at minimum $1/3$ as long as the distance between frontside and esophagus-base	Aulolaimidae
92	Mouth cavity shorter	93
93	Amphids are circular or spiral-shaped	94
93	Amphids cup-shaped	97
94	Head with four setae. Body conspicuously annulated, tail never spatula-shaped, behind terminal bulb esophagus has no extension inside the intestine	96
94	Head with ten setae, six long and four short, or without setae. Body not conspicuously annulated, tail spatula-shaped. Behind the terminal bulb, the esophagus narrows and has an extension inside the intestine	95

95	Esophagus with terminal bulb	Leptolaimidae
95	Esophagus without terminal bulb	Halaphanolaimidae
96	Mouth cavity tubular with sclerotized walls	Diplopeltidae
96	Mouth cavity inconspicuous, very slender nematodes	Bastianiidae
97	Cuticle annulated, mouth cavity closed when resting, but one tooth is recognizable	Tripylidae
97	Cuticle smooth	98
98	Mouth cavity tubular with three movable teeth anteriorly	Ironidae
98	Mouth cavity, when tubular without movable teeth	99
99	Mouth cavity tubular, with a small median tooth	Bathyodontidae
99	Mouth cavity funnel-shaped or reduced	100
100	Head without setae, mouth cavity inconspicuous	Amphidelus
100	Head with 10 s setae, mouth cavity wide with some tiny teeth.	Tobrilidae
101	Anterior gonad reduced	Alairnidae
101	Posterior gonad reduced	102
102	Anterior gonad reflexed and passed the vulva	103
102	Anterior gonad, when reflexed, does not pass the vulva	105
103	Amphid conspicuous large, lip region offset, spherical - round	Osstellidae
103	Amphid inconspicuous	104
104	Anterior gonad passes vulva and has there a kink. Cuticle usually has coarse annulation, a mouth cavity long and slender, is equally sclerotized, and cheilostom is usually broader than other components. Head edge with incisions, lip ornaments present or absent	Cephalobidae
104	Anterior gonad passes vulva and has no kink. Cuticle annulation fine, cheilostom mouth cavity exists, which form a more or less rectangular hole pro- and mesostom strongly sclerotized. Lips never with ornaments	Panagrolaimidae
105	Esophagus with a bulb containing valvular apparatus	106
105	Esophagus without bulb, when base swelled, then no valvular apparatus	113
106	The bulb in the middle of the esophagus	Diplogasteroididae
106	The bulb at the base of the esophagus	107
107	Mouth cavity tubular with parallel walls	Rhabditidae
107	Mouth cavity, not tubular	108
108	In front of the lip, the region is a crown	Teratocephalus
108	Lip region without crown	109
109	At the front of the head are four long thin hairs, the bulb in two parts: the anterior part contains several little teeth. Oesophagus has an extension inside the intestine.	Chronogaster
109	Head without long, thin hairs. Esophagus behind terminal bulb not extended	110
110	Body more than 1 mm	111

110	Body less than 1 mm	112
111	Vulva position 55-62%	Turbatrix
111	Vulva position 70-80%	Plectonchus
112	Dorsal mouth cavity walls with a large tooth, anterior gonad reflexed, head setae absent, amphid cup-shaped and	Campydora
112	Mouth cavity without teeth, gonad outstretched, head setae present, amphid conspicuous, circular	Monhystrella
113	Mouth cavity barrel-shaped	114
113	Mouth cavity narrow	116
114	Esophagus in two parts, anterior part muscular, posterior part gland tissue, head setae absent, mouth cavity has several teeth	Odontopharyngidae
114	Esophagus not differentiated, head setae present, mouth cavity at most with an inconspicuous tooth	115
115	Tail thread-like extended, amphids slit-like	Prismatolaimidae
115	Tail is not thread-like extended, amphids circular	Sphaerolaimidae
116	The dorsal mouth cavity wall has a prominent tooth, head setae absent, amphids inconspicuous, cup-shaped	Campydora
116	Mouth cavity without teeth, head setae present, amphids conspicuous, circular	117
117	Cuticle annulation conspicuous, gonad at left side from the intestine	Xyalidae
117	Cuticle smooth, gonad at the right side of the intestine	Monhysteridae