
FIELD MEETING REPORTS

REPORT ON THE BMIG FIELD MEETING AT JUNIPER HALL 2016**Paul Lee¹, A. D. Barber² and Steve J. Gregory³**¹ Little Orchard, Bentley, Ipswich, Suffolk IP9 2DW, UK.E-mail: arachne2222@aol.com² 7 Greenfield Drive, Ivybridge, Devon PL21 0UG, UK.E-mail: abarber159@btinternet.com³ 4 Mount Pleasant, Church Street, East Hendred, Oxfordshire OX12 8LA, UK.E-mail: stevejgregory@btopenworld.com**INTRODUCTION**

The 2016 BMIG field weekend, held from 31st March to 3rd April, was based at Juniper Hall Field Studies Centre, near Dorking in Surrey (VC17). During the weekend sites in East Sussex (VC14), North Hampshire (VC12) and West Sussex (VC13) as well as Surrey were visited. The meeting had two key aims. The first of these was to check on the status of the centipede *Lithobius piceus*, first found in central southern England in 1958 (VC11). Barber (1969) described the centipede as ‘well-established in southern Surrey and neighbouring areas.’ However, the area had not been well surveyed in recent years and the date of the last record from the four vice-counties seems to be from Epsom Common in 2013. The second aim was to investigate the current distribution of the millipede *Haplopodoiulus spathifer* in the area. *H. spathifer* was first recorded in Britain from Kew Gardens (VC17) in 1976 and then later from Bedgebury, Kent (VC16) in 1988 and Wakehurst Place, East Sussex (VC14) in 1990 (Corbet and Jones, 1996). It was expected that the millipede would have spread to other large gardens across the survey area.

BACKGROUND

Although Kime (1995) noted that there were very few records of millipedes from central southern England before 1967, the Victoria County History (Pocock, 1902) listed eight species each of millipede and centipede, mainly collected ‘at Kew Gardens by Mr Nicholson, at Weybridge by Mr W.R. Ogilvie-Grant, and at Kingston-on-Thames by Mr Lucas.’ In the same volume, Stebbing (1902) records eight species of woodlouse collected variously from Copthorne, Reigate, Weybridge, Headley Common and Frith Park by the author, his niece and sister-in-law. The glasshouses at Kew were already recognised as places of great interest to myriapodologists at the start of the twentieth century and Pocock (1902) names an additional three millipedes and three centipedes collected by Nicholson from the tropical houses there but notes that there is no evidence of these importations breeding there. He comments that these six exotic forms are the ‘most noticeable’ implying that further species were known. All species mentioned in the Victoria County History are shown in Table 1.

In a report on the fauna & flora of Kew Gardens (Pocock, 1906), additional centipede species listed included *Geophilus electricus*, *Geophilus flavus* and *Haplophilus subterraneus*. A further *Geophilus* ‘apparently not identifiable with any British species’ was noted also. Additional millipedes listed included *Brachydesmus superus* and the exotics *Orthomorpha coarctata*, *Anadenobolus monilicornis* and *A. vincenti*. A further species of *Typhloiulus* was not identified. Scourfield (1906) gave the woodlouse *Androniscus dentiger* and the water slater *Asellus aquaticus* as additions in the same report.

Between 1906 and 1946 the woodlice of Kew gardens continued to be widely collected with 21 species recorded from the gardens and glasshouses (Holthuis, 1946) including three species new to science: *Miktoniscus linearis* (Patience), “*Setaphora*” *patiencei* (Bagnall) and *Burmoniscus meeusei* (Holthuis).

Table 1: Species of Myriapoda and Isopoda recorded from Surrey before 1902

Centipedes	Millipedes	Woodlice
<i>Haplophilus subterraneus</i>	<i>Glomeris marginata</i>	<i>Ligidium hypnorum</i>
<i>Strigamia crassipes</i>	<i>Oxidus gracilis</i>	<i>Trichoniscus pusillus s.l.</i>
<i>Geophilus carpophagus s.l.</i>	<i>Polydesmus angustus</i>	<i>Philoscia muscorum</i>
<i>Geophilus flavus</i>	<i>Blaniulus guttulatus</i>	<i>Oniscus asellus</i>
<i>Cryptops anomalans</i>	<i>Ophiulus pilosus</i>	<i>Porcellio dilatatus</i>
<i>Cryptops hortensis</i>	<i>Cylindroiulus caeruleocinctus</i>	<i>Porcellio scaber</i>
<i>Lithobius forficatus</i>	<i>Cylindroiulus punctatus</i>	<i>Porcellionides pruinosus</i>
<i>Lithobius variegatus</i>	<i>Tachypodoiulus niger</i>	<i>Armadillidium vulgare</i>
Species from heated glasshouses at Kew Gardens		
<i>Mecistocephalus punctifrons</i>	<i>Chondromorpha kelaarti</i>	
<i>Scolopendra morsitans*</i>	<i>Spirobolellus</i> sp.	
<i>Scolopendra subspinipes</i>	<i>Trigoniulus goesi</i>	

* given as *S. morsicans* by Pocock (1902)

A short paper published almost fifty years after the Victoria County History and based on field courses held at Juniper Hall added just one species of centipede, *Lithobius microps*, and one millipede, *Polyxenus lagurus*, to the Surrey fauna (Arthur *et al.*, 1951). This same paper does mention a further millipede, *Polyzonium germanicum*, from grassland on Box Hill. The record is based on a fragment of cast skin collected by J.H.P. Sankey and its identity confirmed as ‘undoubtedly this species’ by F.A. Turk on the basis of one of the paragonopods remaining attached. However, the species had never been collected from Box Hill, or anywhere else in Surrey, prior to or since this find. Indeed, the chalky grassland described by Sankey seems a most unsuitable habitat when compared with the wet woodlands and wet acid heath where the millipede was found to be most abundant in Kent by BMIG in 2011 (Lee *et al.*, 2015).

In the late 1960’s Des Kime and Tony Barber provided a boost to myriapod recording in the area when they were both working at the Royal Grammar School, Guildford. Kime (1968) reported the addition of the millipede *Stosatea italica* to the Surrey fauna and went on to summarise the 31 millipede species recorded from his work in Hampshire, Surrey and West Sussex (Kime, 1978). Meanwhile, Barber summarised the distributions of 24 species of centipede in Surrey (Barber, 1969) and later considered the fauna of South East England listing 25 species from Surrey, 21 from Sussex and 19 from Hampshire (Barber, 1972). In another paper (Barber & Eason, 1970), *Brachyschendyla dentata* (now *Schendyla dentata*) was added to the Surrey (and British) list from the Haslemere and Guildford areas. Later in that decade, Ted Eason (Eason, 1979) in a paper on *Geophilus carpophagus* distinguished two forms, a long one from urban/domestic sites and a shorter one from rural ones. Some of the long-form animals used in the study were derived from a site at Mortlake (coll.A.J.Rundle). The two forms were subsequently recognised as separate species, *Geophilus carpophagus* (s.s.) and *Geophilus easoni* (Arthur *et al.*, 2001).

Most of the records of *G. carpophagus* in the 1969 study (Barber, 1969) were from rural sites & most, if not all, were of the *G. easoni* form.

In 1988 *Tygarrup javanicus* was described from hothouses at Kew having been collected there by Adrian Rundle in 1967 (Lewis & Rundle, 1988). However, apart from this exotic introduction, it was another two decades before further updates on these myriapod faunas were published as vice-county lists (Jones, 1993; Keay, 1993b). At the same time the BMG/BISG visited West Sussex for their annual field meeting. Most of the sites surveyed were close to the south coast and none corresponded with those visited in 2016 but amongst the 24 species of woodlice, 29 species of millipedes and 25 species of centipedes collected was *Lithobius piceus*, recorded from three of the sites (Daws, 1993; Keay, 1993a). During this meeting one of the last reported sightings in the UK of the much-declined woodlouse *Porcellio laevis* (in a disused barn) was made and a new county record (VC 14) for *Buddelundiella cataractae* was reported from the coast. Kime collated the millipede records of other workers, including those from the BMG/BISG meeting in an update of his earlier report, mapping the distributions of the 35 species of millipede known from central southern England at the time (Kime, 1995).

BMIG began the new millennium with a number of visits to Royal Horticultural Society's gardens at Wisley between 2002 and 2005 recording a total of 13 species of millipede (Read, 2008). A further visit in October 2008 was attended by only four members and reported 8 species of woodlice, 6 species of centipedes and 15 species of millipedes, all of which had previously been recorded at the gardens (Read *et al.*, 2010). Staff at Wisley generated further records from their Plants for Bugs project which ran from 2009 to 2014. Most significantly, the millipede *Anamastigona pulchella* was collected by pitfall trapping in 2011 (Gregory, 2012; Gregory *et al.*, 2015).

In summary, Table 2 shows the number of centipede, millipede and woodlouse species recorded from North Hampshire (VC 12), West Sussex (VC 13), East Sussex (VC 14) and Surrey (VC 17) (ignoring the pre 1902 records and the doubtful *Polyzonium germanicum*) prior to the BMIG meeting in 2016.

Table 2: Summary of number of species of centipede, millipede and woodlice recorded prior to 2016 from vice-counties of central southern England

	VC 12	VC 13	VC 14	VC 17
Centipedes*	22	24	32	29
Millipedes	25	27	32	39
Woodlice	20	29	32	25

* based on unpublished BRC (2018) data.

Note: VCs 13 and 14 have coastline and the number of species listed includes littoral/coastal forms.

METHODS AND SITES

The meeting was not organised as a systematic search for the target species, *Haplopodoiulus spathifer* and *Lithobius piceus*, but most of the sites visited were selected as being likely to support one or other of them.

A summary of the 14 sites visited and the sub-locations within these sites is shown in Table 3. Only a single site was visited in each of Hampshire and East Sussex, two sites were in West Sussex with the remaining ten in Surrey. Further details of the species records for each site are summarised in Tables 4

(centipedes), 5 (woodlice, etc) and 6 (millipedes).

RESULTS

Ten Nationally Scarce species were recorded during the weekend, namely the centipedes *Henia brevis*, *Henia vesuviana* and *Lithobius muticus*, the millipedes *Brachychaeteuma melanops*, *Choneiulus palmatus*, *Nopoiulus kochii*, *Allajulus nitidus*, *Cylindroiulus londinensis* and *Leptoiulus kervillei* and the woodlouse *Porcellio laevis*. This assemblage of species contains a strong synanthropic element reflective of many of the sites visited. The three locations with the highest species richness, Juniper Hall (13 centipedes, 14 millipedes, 12 woodlice), RHS Wisley (11 centipedes, 21 millipedes, 9 woodlice plus landhopper) and Sheffield Park (12 centipedes, 11 millipedes, 9 woodlice plus landhopper), were large ornamental gardens, again a reflection of the synanthropic nature of the fauna.

Table 3: List of sites visited.

Recorders: TB - Tony Barber; KC - Kevin Clements; JF – Jim Flanagan; SG - Steve Gregory; PL - Paul Lee; AL – Angela Lidgett; HR - Helen Read; PR - Paul Richards; DW - Derek Whiteley.

Site no.	Site name	Grid Reference	VC	Date	Recorders
1	Noar Hill	SU7431	12	03/04/2016	SG
2	Guildford, Pavillion	SU999497	17	01 & 03/04/2016	JF, PR, DW & SG
3	Guildford, Pavillion	TQ000498	17	03/04/2016	SG
4	Chinthurst Hill	TQ0145	17	01/04/2016	AB, HR
5	Chinthurst Hill	TQ0146	17	01/04/2016	PL, HR
6	The Mens	TQ0223	13	02/04/2016	AB, PL, HR
7	St Martha's Hill	TQ0248	17	01/04/2016	SG, PR, DW
8	St Martha's Hill	TQ0349	17	01/04/2016	PR
9	Chobham M25 services	TQ1157	17	03/04/2016	PR
10	St Mary & St Nicholas Church, Leatherhead	TQ1656	17	03/04/2016	PR
11	Juniper Hall	TQ1752	17	31/03/2016 to 03/04/2016	TB, KC, SG, PR, DW
12	Pilgrims Way, Brockham	TQ1850	17	02/04/2016	PR, DW
13	Pilgrims Way, Brockham	TQ1950	17	02/04/2016	PR, DW
14	Box Hill High Street	TQ194514	17	02/04/2016	PR
15	Brockham Limeworks	TQ196510	17	02/04/2016	PR, DW
16	RHS Wisley, gardens	TQ0658	17	01/04/2016	TB, SG, AL, PL, HR, PR, DW
17	RHS Wisley, Glasshouse	TQ0658	17	01/04/2016	SG, HR, PR, DW
18	RHS Wisley, gardens	TQ0659	17	01/04/2016	TB, PL, HR
19	Sheepleas	TQ0851	17	01/04/2016	AL
20	Sheffield Park, Wildlife Haven	TQ407231	14	02/04/2016	SG
21	Sheffield Park, gardens	TQ4123	14	02/04/2016	SG, AL
22	Sheffield Park, gardens	TQ4124	14	02/04/2016	TB, AL, PL, HR
23	Eridge Rocks	TQ5535	14	02/04/2016	AL

CENTIPEDES

A total of 19 species overall were collected (Table 4), 8 from VC12, 3 from VC13 and 13 from VC17. Despite searches at a number of sites where *Lithobius piceus* had been recorded previously, the species was not found in 2016. Of the hundred or so records of *L. piceus* reported, about two-thirds were made over the period 1965 – 1969 following its discovery on the North Downs in Surrey. Subsequent to this time, a period of fairly intense collecting, there was limited work on myriapods in the area. A number of records were reported through the 1970s and 1980s, although it was never found in Kent, a generally well recorded county. The Provisional Centipede Atlas (Barber & Keay, 1988) showed it as recorded from 16 hectads (10km grid squares) in quite a limited area. Very little subsequent work had taken place until the present meeting. As to why it was not found in 2016 is difficult to suggest – possibly local weather conditions at the time or, in fact, a decline in population or range or maybe just chance. Collections were certainly made in areas and habitats where it might be expected (generally rural and woodland). It is similar in appearance to *L. forficatus* in the field but sufficiently distinct under magnification to distinguish.

Of the remaining species, *Tygarrup javanicus* being found at Wisley (Fig. 1) was not unexpected as it has been found a number of times in heated glasshouses elsewhere in Britain, including nearby at Kew, and in mainland Europe. Its relatively small size and apparently parthenogenetic habit would facilitate its transfer with plant or compost material.



Figure 1: *Tygarrup javanicus* from RHS Wisley (Image © Keith Lugg)

Some other species are known for their synanthropic habits in our area, including the two species of *Henia* (probably less so in *H. vesuviana*), *Stenotaenia linearis*, *Haplophilus subterraneus* (somewhat), *Cryptops anomalans* (very definitely) and *C. parisi* (in regions outside the south-west). *C. hortensis*, although often synanthropic, is, like *L. microps* in the South-East, sometimes found in quite rural woodland. *L. forficatus* is not only large and fairly conspicuous and therefore frequently collected, it is found in gardens and disturbed sites where it is fairly ubiquitous and sometimes in more rural ones and is the most commonly recorded centipede in Britain. Correspondingly, *L. variegatus* is more confined to

undisturbed and rural sites but very common there. *L. melanops* favours gardens & disturbed areas but is not confined to them. Of the remaining geophilomorphs, all are widespread species; *Geophilus electricus* might have been expected to be found as it is generally rather synanthropic in its habits. Given that the immediate garden area of Juniper Hall, as well as Wisley and Sheffield Park, the centre of Guildford, a motorway service area, and a lime-works were amongst locations visited, the species spectrum is not altogether unexpected. *Lithobius muticus* was thought at one time to be more or less confined to south east England in a broad sense but has now been found elsewhere. It is generally a rural animal so, again, it is surprising that it has not been recorded in the current collection except for in mature oak woodland at Sheffield Park.

Notably not found but not so surprisingly, were *L. crassipes*, *L. curtipes* and *L. macilentus*, all of which have been found in Surrey. The former two are by no means the common small lithobiids there and the latter has a very patchy distribution. Neither of our two non-marine *Strigamia* species were found but their occurrence always seems somewhat unpredictable. *Lamyctes emarginatus* was collected at RHS Wisley in October 2008 but was not re-found in April 2016. This was no surprise considering the season.

MILLIPEDES

A total of 33 species were collected (Table 6). During the 2016 meeting only single sites in North Hampshire (VC 12) and East Sussex (VC 13) were visited. Collecting there produced just five and four common species respectively, none of which were new to the vice-county fauna. The large number of sites visited in Surrey (VC 17) was reflected by the fact that of the 33 species recorded over the weekend, 31 were recorded from at least one site in VC 17. *Anamastigona pulchella* and *Rhinotus purpureus* (Fig. 2) were re-found at RHS Wisley and the gardens produced records of three species new to Surrey. As was anticipated, *Haplopodoiulus spathifer* was collected and was present in at least two areas of woodland. Around the glasshouses *Nopoiulus kochii* and *Cylindroiulus truncorum* were new also to Surrey. Most of the millipede records in West Sussex (VC 14) came from Sheffield Park. *Haplopodoiulus spathifer* was well established here and *Leptoiulus kervillei* was new to VC14.



Figure 2: *Rhinotus purpureus* from RHS Wisley (Image © Paul Richards)

WOODLICE

During the course of the weekend 20 species of woodlice were recorded in addition to the landhopper *Arcitalitrus dorrieni* from three sites (Table 5). This is a respectable number of species considering that coastal habitats were not visited and reflects the general species richness of the south-east. However, no new county records were made.

Seventeen species were recorded from Surrey (VC 17), reflecting the fact that 15 sites were visited. This total included *Armadillidium depressum*, *Porcellio dilatatus* and *P. laevis* from Guildford (this latter species is discussed further below), *Trachelipus rathkii* from a motorway service station and *Armadillidium nasatum* from Juniper Hall and RHS Wisley. Although only two sites were visited in West Sussex (VC14), *Porcellionides cingendus* was collected in the gardens at Sheffield Park and *Ligidium hypnorum* and *Trichoniscoides albidus* in the Wildlife Haven area.

Perhaps the most unexpected find of the meeting was the discovery of *Porcellio laevis* in Guildford (an account of its discovery is given by Flanagan, 2016). This large and distinctive woodlouse (Fig. 3), once recorded widely in Britain and Ireland, has been recorded in a decreasing number of localities, possibly due to the progressive loss of suitable synanthropic sites (Harding, 2016). Until this observation in Guildford, the most recent records were from Margate, Kent in 2007, Glasgow in 1996 and the Wirral in 1995.



Figure 3: *Porcellio laevis* male from Guildford (Image © Jim Flanagan)

ACKNOWLEDGEMENTS

Thanks to Tony Barber, Kevin Clements, Jim Flanagan, Steve Gregory, Paul Lee, Angela Lidgett, Helen Read, Paul Richards and Derek Whiteley for submitting their records.

Table 4: Summary of species of centipede recorded during the BMIG meeting in Surrey.

Location:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
<i>Tygarrup javanicus</i>																	X							1
<i>Haplophilus subterraneus</i>	X	X		X							X				X	X			X		X	X		9
<i>Schendyla nemorensis</i>	X					X					X	X			X	X					X		X	8
<i>Henia brevis</i>											X													1
<i>Henia vesuviana</i>																X					X			2
<i>Geophilus carpophagus s.str.</i>		X	X							X	X		X			X					X			7
<i>Geophilus easoni</i>				X			X											X	X				X	5
<i>Geophilus flavus</i>	X	X								X	X					X						X		6
<i>Geophilus alpinus</i>						X					X		X									X		4
<i>Geophilus truncorum</i>	X	X		X		X										X		X						6
<i>Stenotaenia linearis</i>											X													1
<i>Cryptops anomalans</i>		X									X													2
<i>Cryptops hortensis</i>		X		X	X	X				X	X				X	X	X					X	X	11
<i>Cryptops parisi</i>						X																		1
<i>Lithobius forficatus</i>	X	X	X	X	X			X	X		X		X							X	X	X		12
<i>Lithobius melanops</i>	X	X					X				X		X		X			X	X	X				9
<i>Lithobius microps</i>	X	X	X		X	X	X				X		X					X		X	X			11
<i>Lithobius muticus</i>																					X	X		2
<i>Lithobius variegatus</i>	X			X	X	X					X				X	X		X		X	X	X		11

Table 5: Summary of species of woodlouse and landhopper recorded during the BMIG meeting in Surrey.

Location:	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22	23	Total	
Woodlice																							
<i>Asellus aquaticus</i>															X				X				2
<i>Ligidium hypnorum</i>	X																	X					2
<i>Androniscus dentiger</i>	X	X	X							X				X	X								6
<i>Haplophthalmus danicus</i>	X					X				X			X		X								5
<i>Trichoniscoides albidus</i>																			X				1
<i>Trichoniscus provisorius</i>	X									X													2
<i>Trichoniscus pusillus</i> agg.	X	X	X		X	X		X		X				X	X		X	X	X		X		13
<i>Trichoniscus pygmaeus</i>		X	X					X	X	X				X									6
<i>Platyarthrus hoffmannseggii</i>									X	X	X			X									4
<i>Philoscia muscorum</i>	X	X	X		X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	18
<i>Oniscus asellus</i>	X	X	X	X	X	X	X			X		X	X	X	X		X	X	X	X	X	X	17
<i>Porcellio dilatatus</i>		X																					1
<i>Porcellio laevis</i>		X																					1
<i>Porcellio scaber</i>	X	X	X	X	X	X	X		X	X				X	X	X	X	X	X	X	X	X	17
<i>Porcellionides cingendus</i>																				X			1
<i>Porcellionides pruinosus</i>		X								X													2
<i>Trachelipus rathkii</i>								X															1
<i>Armadillidium depressum</i>		X	X																				2
<i>Armadillidium nasatum</i>										X					X								2
<i>Armadillidium vulgare</i>	X	X	X		X		X	X	X	X	X	X			X	X	X		X		X		15
Landhopper																							
<i>Arcitalitrus dorrieni</i>									X						X				X	X			4

Table 6: Summary of species of millipede recorded during the BMIG meeting in Surrey.

Location:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	
Millipedes																									
<i>Polyxenus lagurus</i>							X					X	X												3
<i>Glomeris marginata</i>	X			X		X	X	X							X	X		X	X				X	X	11
<i>Rhinotus purpureus</i>																	X								1
<i>Brachychaeteuma melanops</i>											X				X					X	X				4
<i>Nanogona polydesmoides</i>														X											1
<i>Melogona scutellaris</i>											X														1
<i>Oxidus gracilis</i>																	X								1
<i>Brachydesmus superus</i>	X							X			X					X						X	X		6
<i>Polydesmus angustus</i>					X						X	X			X	X		X						X	7
<i>Polydesmus coriaceus</i>				X	X			X	X		X			X		X						X	X		9
<i>Polydesmus inconstans</i>						X												X							2
<i>Cylindrodemus hirsutus</i>																	X								1
<i>Macrosternodesmus palicola</i>		X									X														2
<i>Ophiodesmus albonanus</i>		X									X		X						X						4
<i>Choneiulus palmatus</i>																X	X								2
<i>Nopoiulus kochii</i>																	X								1
<i>Proteroiulus fuscus</i>				X	X	X	X								X	X	X								7
<i>Blaniulus guttulatus</i>		X	X							X	X			X	X										6
<i>Boreoiulus tenuis</i>													X	X											2
<i>Haplopodoiulus spathifer</i>																X		X				X	X		4
<i>Julus scandinavus</i>																X									1
<i>Ophiulus pilosus</i>											X			X	X	X			X			X			6
<i>Leptoiulus kervillei</i>											X													X	2

Millipedes (cont.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
<i>Allajulus nitidus</i>																X								1
<i>Cylindroiulus britannicus</i>		X	X	X							X					X	X	X			X	X		9
<i>Cylindroiulus caeruleocinctus</i>		X		X						X	X		X	X	X	X		X			X			10
<i>Cylindroiulus latestriatus</i>							X										X	X						3
<i>Cylindroiulus londinensis</i>																							X	1
<i>Cylindroiulus punctatus</i>	X	X	X	X	X	X		X		X	X		X	X	X	X		X	X		X	X	X	18
<i>Cylindroiulus truncorum</i>																	X							1
<i>Cylindroiulus vulnerarius</i>		X																						1
<i>Brachyiulus pusillus</i>	X																			X				2
<i>Tachypodoiulus niger</i>	X			X	X			X			X	X			X	X						X	X	10

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