

Table 4 The amino acid composition of phloem exudates from 16 plant species. All data are mean mol % of 10 replicates

(a) Non-essential amino acids		Sugar : amino acid ratio (mol/mol)	Relative amount of nonessential amino acid in exudates (mol%) ^a								
Host plant status	Plant species		ala	arg	asn	asp	glu	gln	gly	ser	tyr
Non-host plants	<i>Arabidopsis thaliana</i>	2.2	9.7	1.6	10.1	9.5	11.4	33.2	0.7	7.7	0.6
	<i>Chenopodium hybridum</i>	1.6	6.4	0.9	1.9	7.9	17.5	42.4	2.0	4.0	1.6
	<i>Plantago lanceolata</i>	6.7	9.4	8.2	2.6	7.7	20.8	27.0	1.2	7.6	1.1
	<i>Rumex acetosella</i>	1.0	5.2	0.8	4.3	9.5	18.5	30.9	2.9	14.0	1.8
	<i>Trifolium repens</i>	5.2	7.5	0.7	45.5	8.3	11.3	2.3	2.0	10.2	1.1
	<i>Viola arvensis</i>	3.3	5.4	1.2	3.5	11.1	11.7	46.4	1.2	9.3	1.0
Common host plants	<i>Rumex acetosa</i>	7.9	5.0	0.8	1.5	6.4	21.8	44.6	1.1	6.3	2.4
	<i>Rumex obtusifolius</i>	3.9	4.3	1.5	1.6	10.8	21.5	36.1	0.9	7.8	1.2
Sub species-specific host plants	<i>Arctium minus</i>	1.3	9.7	1.3	39.3	5.0	15.0	9.1	1.3	7.1	1.4
	<i>Chenopodium album</i>	3.6	5.1	1.2	2.8	7.7	21.5	32.2	2.0	5.7	1.5
	<i>Cirsium arvense</i>	1.2	10.1	1.0	32.2	3.9	11.8	18.8	2.4	8.2	0.9
	<i>Lamium purpureum</i>	0.1	6.3	0.7	2.8	2.1	8.1	61.5	5.4	6.1	0.5
	<i>Papaver dubium</i>	0.4	6.1	0.4	3.9	23.1	11.2	33.4	0.8	7.7	1.2
	<i>Solanum nigrum</i>	3.0	9.3	1.4	5.4	6.6	12.4	32.8	2.7	9.8	1.5
	<i>Tropaeolum majus</i>	8.7	7.5	1.0	41.7	9.1	11.2	3.9	1.2	7.95	1.4
	<i>Vicia faba</i>	1.1	3.0	0.6	68.7	3.4	3.7	6.7	0.8	4.4	0.5
(b) Essential amino acids		% essential amino acid content	Relative amount of essential amino acid in exudates (mol%) ^a								
Host plant status	Plant species		his	ile	leu	lys	met	phe	thr	trp	val
Non-host plants	<i>Arabidopsis thaliana</i>	15.3	0.4	1.2	1.2	1.8	0.7	1.1	5.6	0.9	2.4
	<i>Chenopodium hybridum</i>	15.4	0.9	1.6	1.7	2.0	1.1	1.2	1.1	3.1	2.7
	<i>Plantago lanceolata</i>	14.4	0.3	1.3	1.6	1.9	0.8	1.0	3.4	0.8	3.3
	<i>Rumex acetosella</i>	12.0	0.6	1.1	1.5	1.3	0.7	0.8	2.6	1.2	2.2
	<i>Trifolium repens</i>	9.5	0.4	0.8	1.1	1.3	0.4	0.7	2.2	0.9	1.8
	<i>Viola arvensis</i>	9.1	0.3	0.9	1.1	1.3	0.4	0.7	1.7	0.6	2.0
Common host plants	<i>Rumex acetosa</i>	11.7	0.3	0.6	0.8	0.8	0.4	0.8	2.5	3.5	1.4
	<i>Rumex obtusifolius</i>	14.4	0.5	1.0	1.5	1.3	1.0	1.3	4.2	1.3	2.3
Sub species-specific host plants	<i>Arctium minus</i>	10.9	0.7	0.9	1.3	1.4	0.6	1.9	1.8	0.4	2.0
	<i>Chenopodium album</i>	19.8	0.5	2.4	3.0	2.5	1.2	0.9	3.3	2.8	3.1
	<i>Cirsium arvense</i>	10.7	0.6	1.0	1.2	1.1	0.3	1.3	2.2	0.7	2.2
	<i>Lamium purpureum</i>	6.5	0.3	0.5	0.7	0.6	0.4	0.3	2.2	0.6	0.9
	<i>Papaver dubium</i>	12.3	0.2	1.0	0.9	0.6	0.3	0.3	4.9	1.2	2.8
	<i>Solanum nigrum</i>	18.1	0.7	2.2	2.3	1.9	1.0	1.6	3.6	2.0	2.7
	<i>Tropaeolum majus</i>	15.1	0.7	1.3	2.3	2.0	0.5	1.4	3.2	1.4	1.9
	<i>Vicia faba</i>	8.2	3.3	0.5	0.6	1.0	0.2	0.4	1.0	0.2	1.0

^aStandard abbreviations for amino acids are provided in legend to Figure 2.