

Lugemiseest tingitud nihe
artikli tulemustes



Efekti tegelik suurus

-2

-1

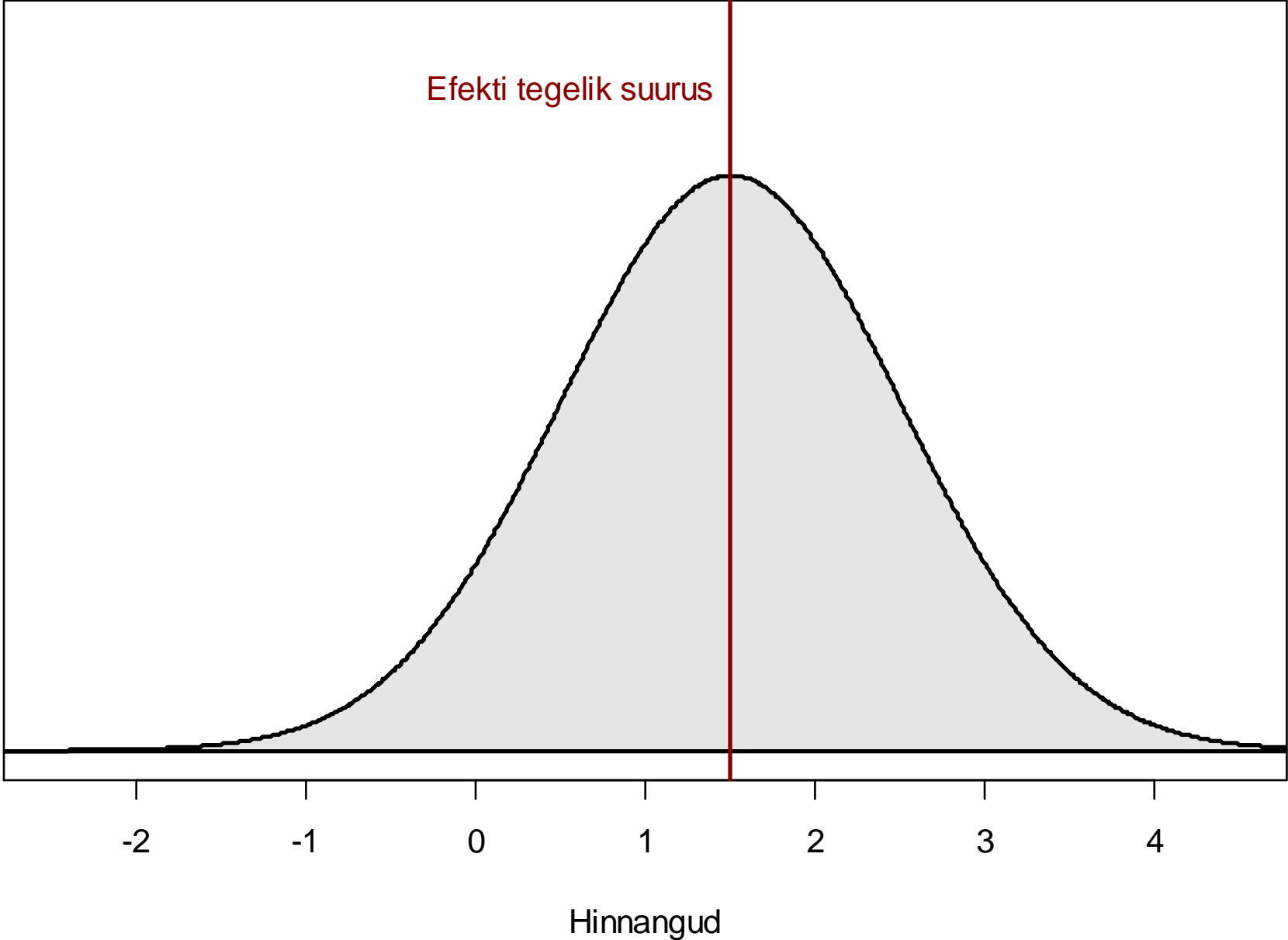
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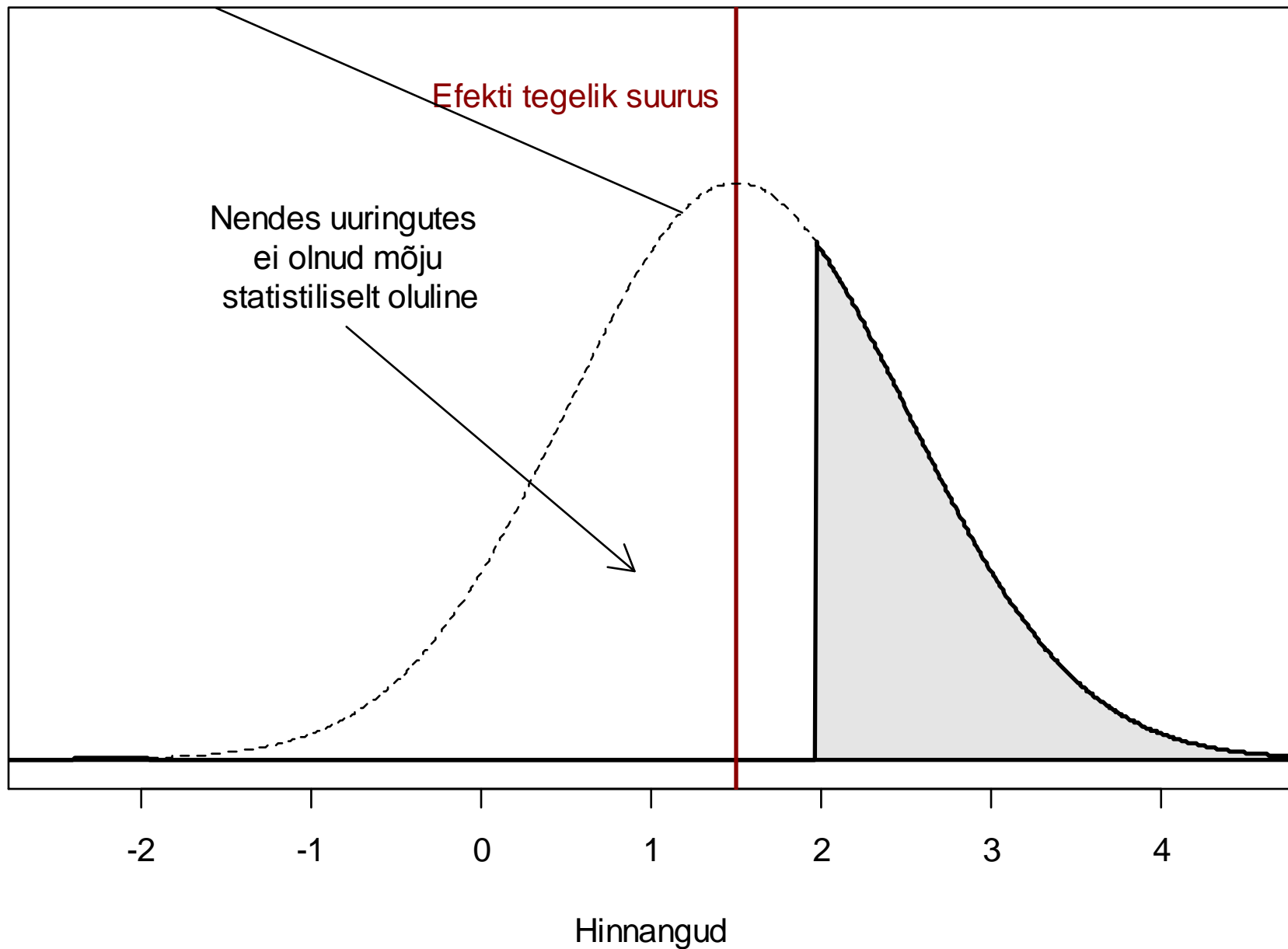
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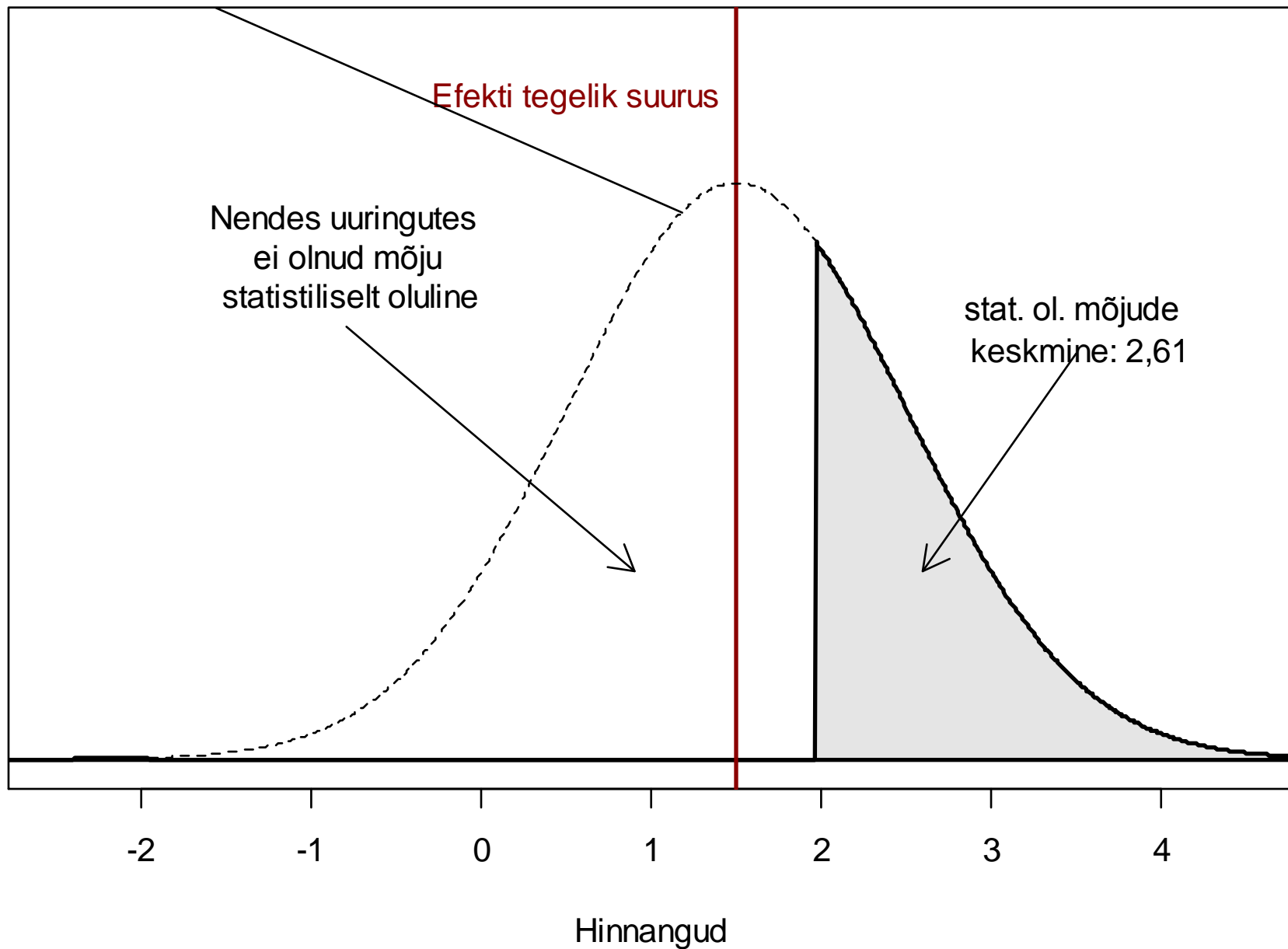
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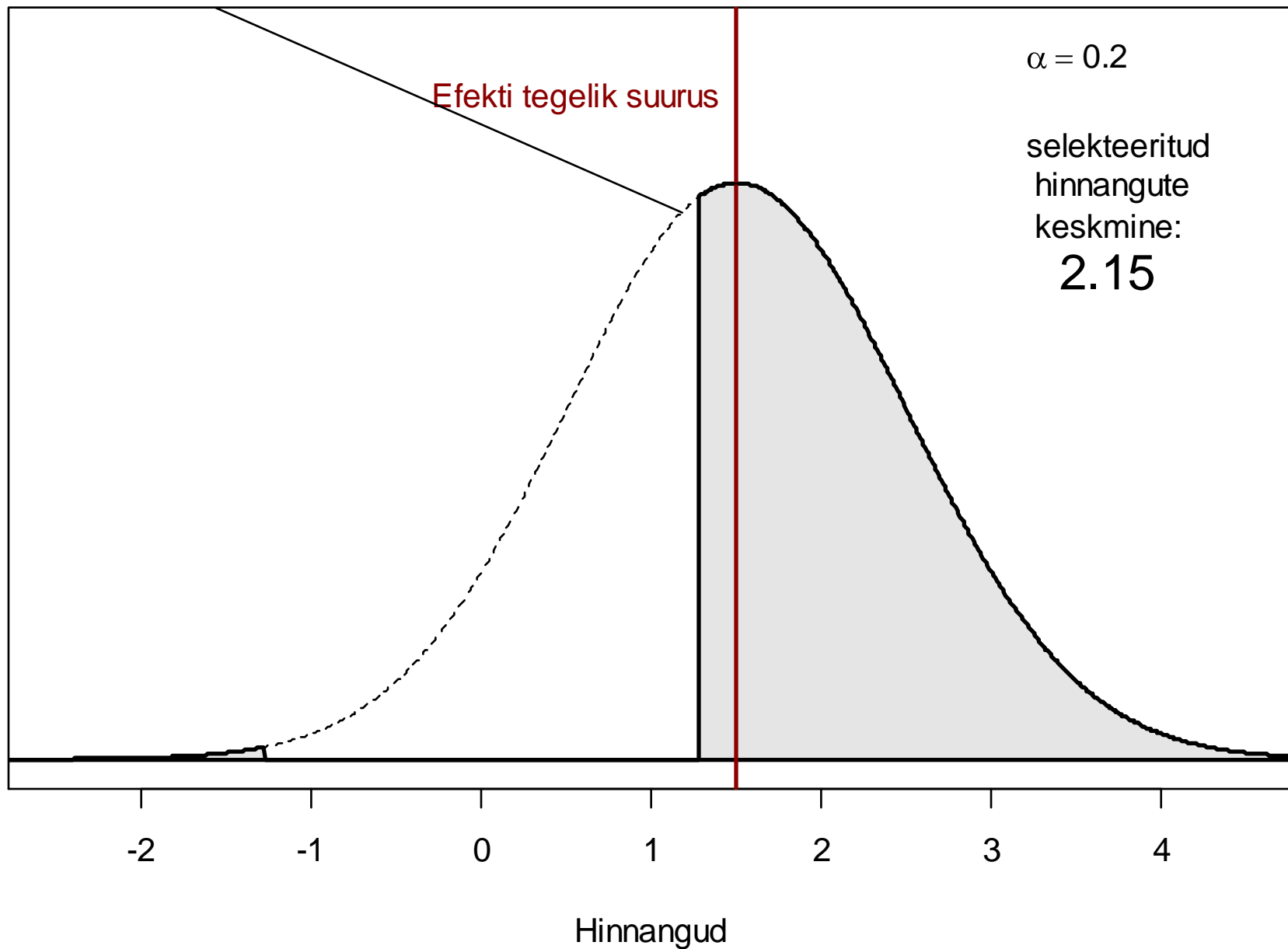
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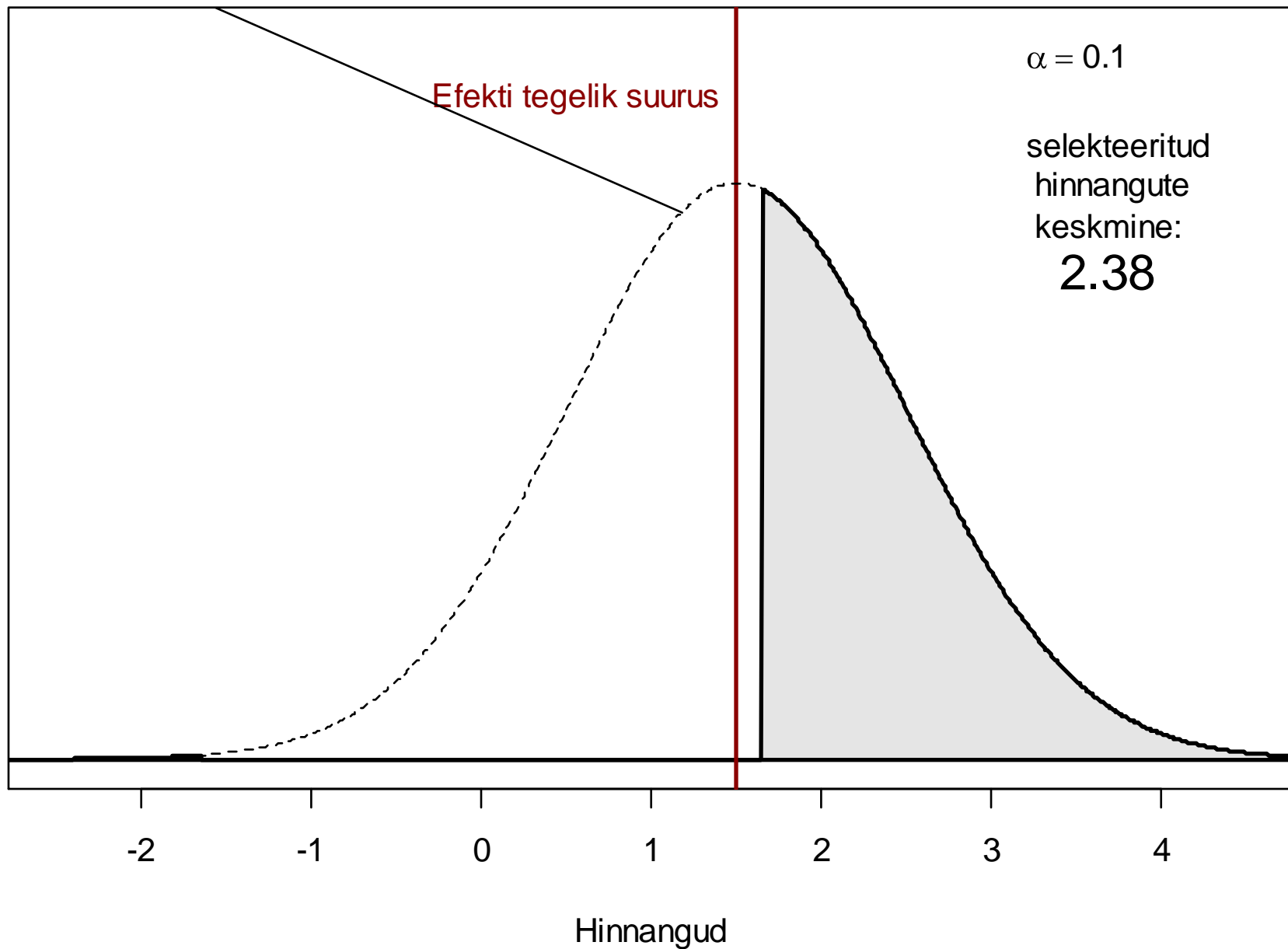
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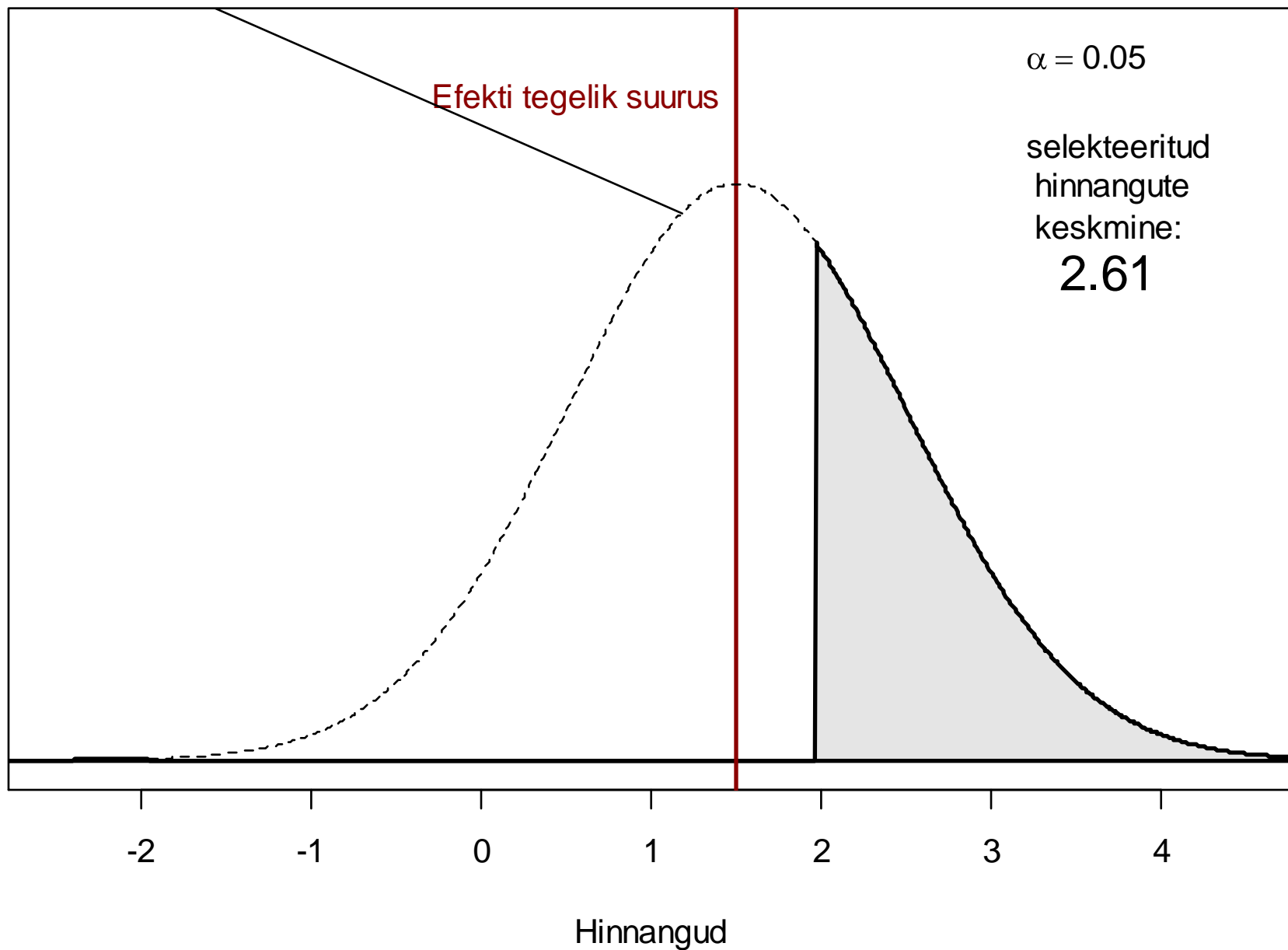
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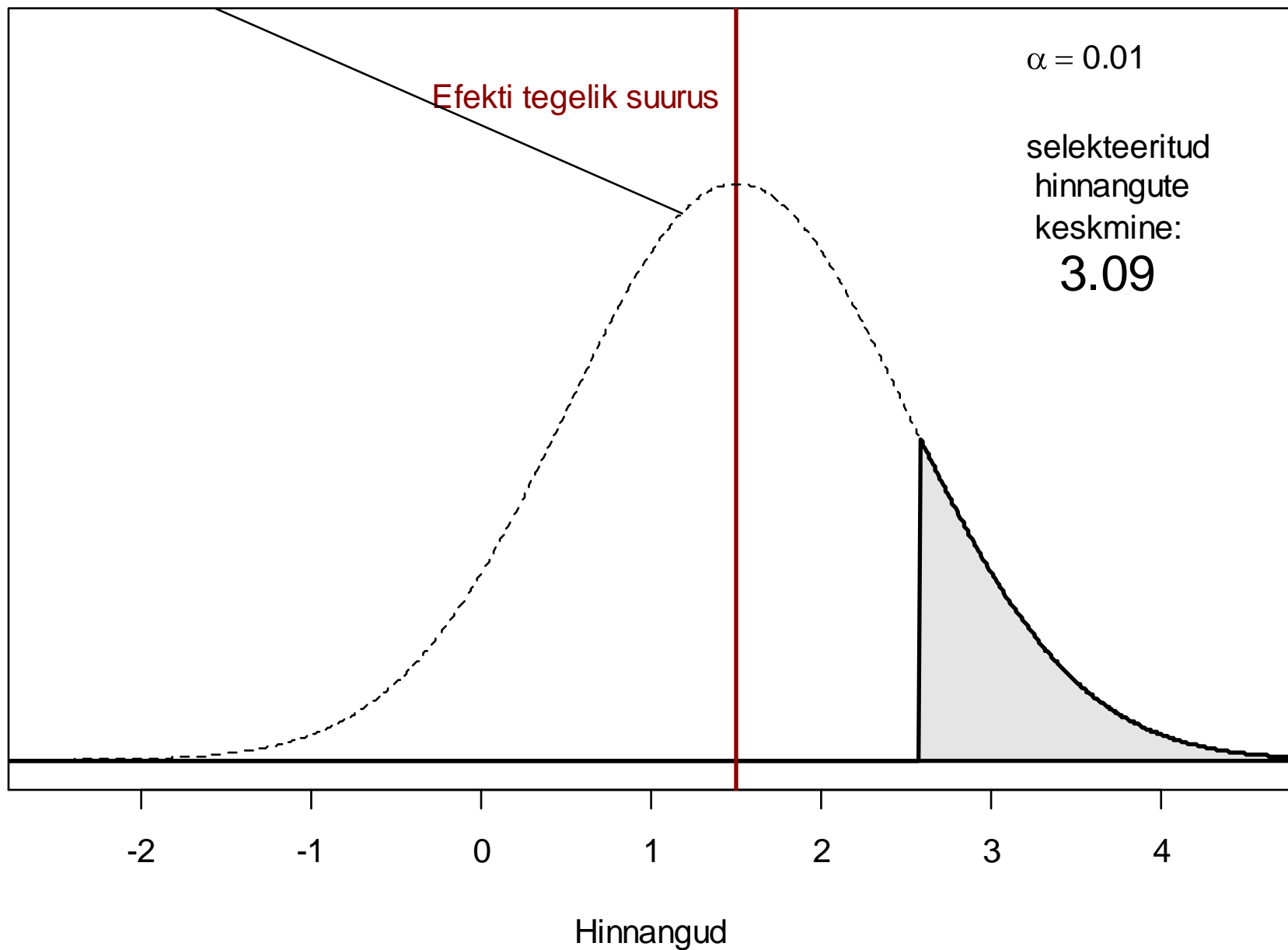
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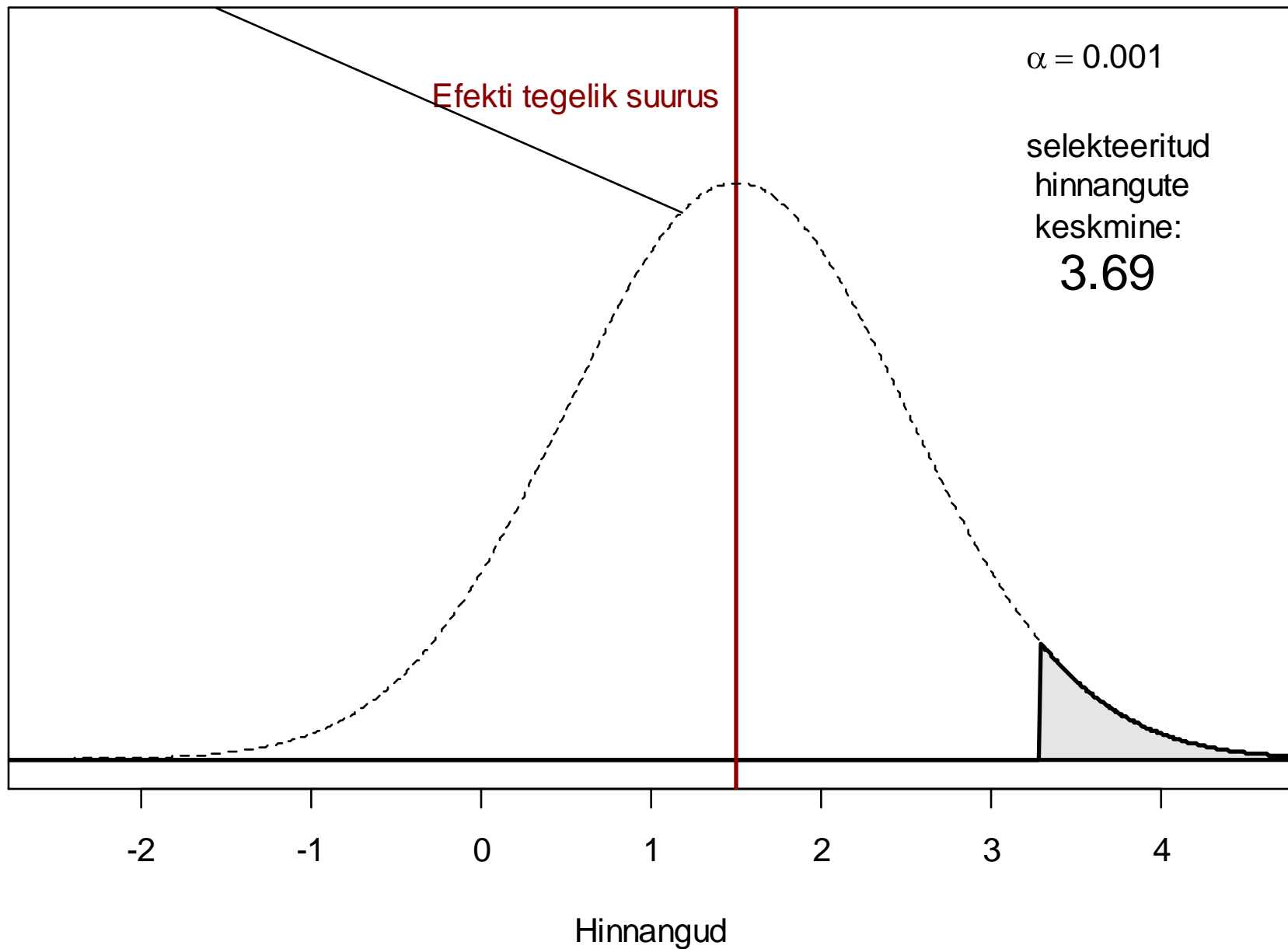
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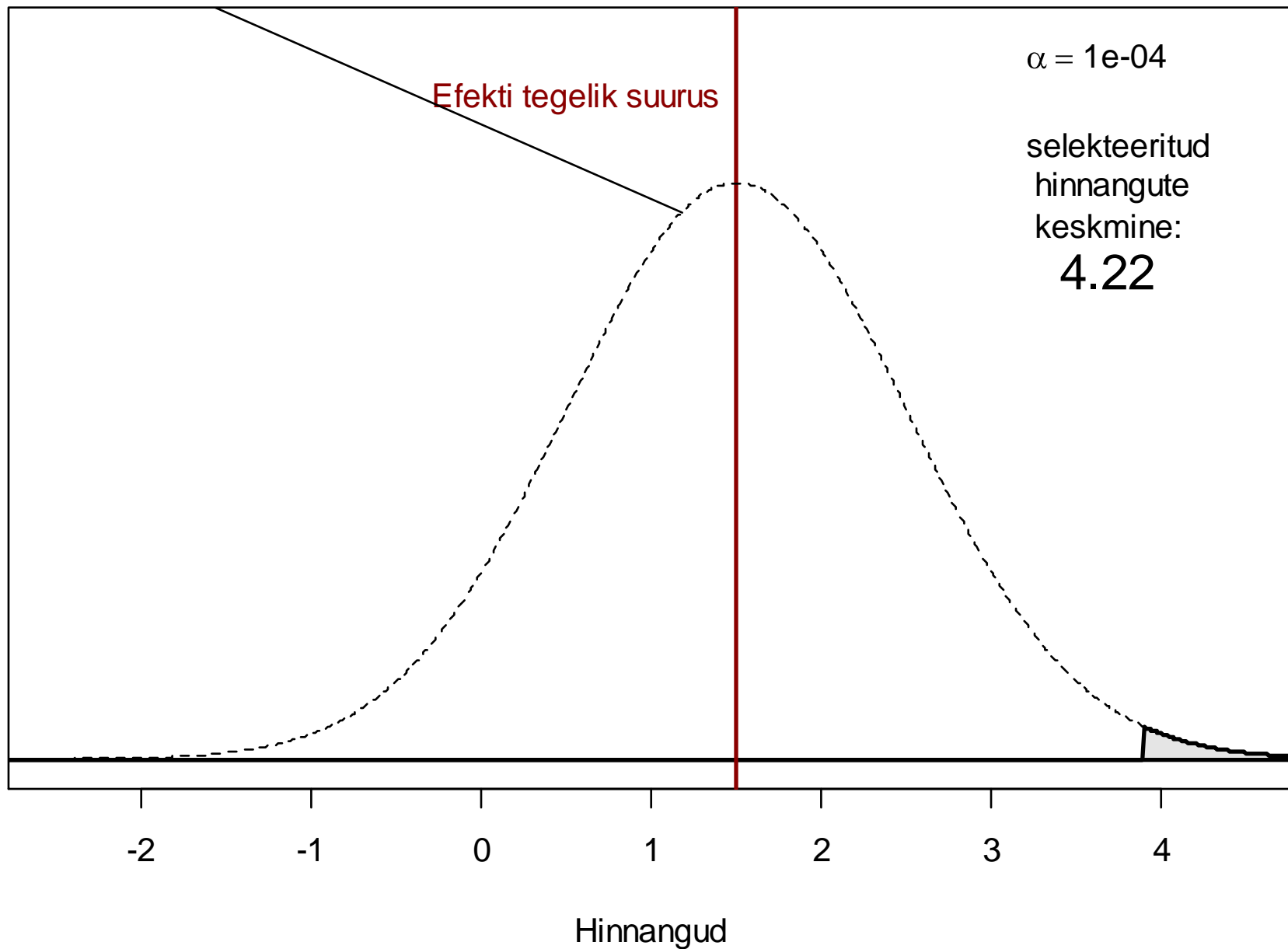
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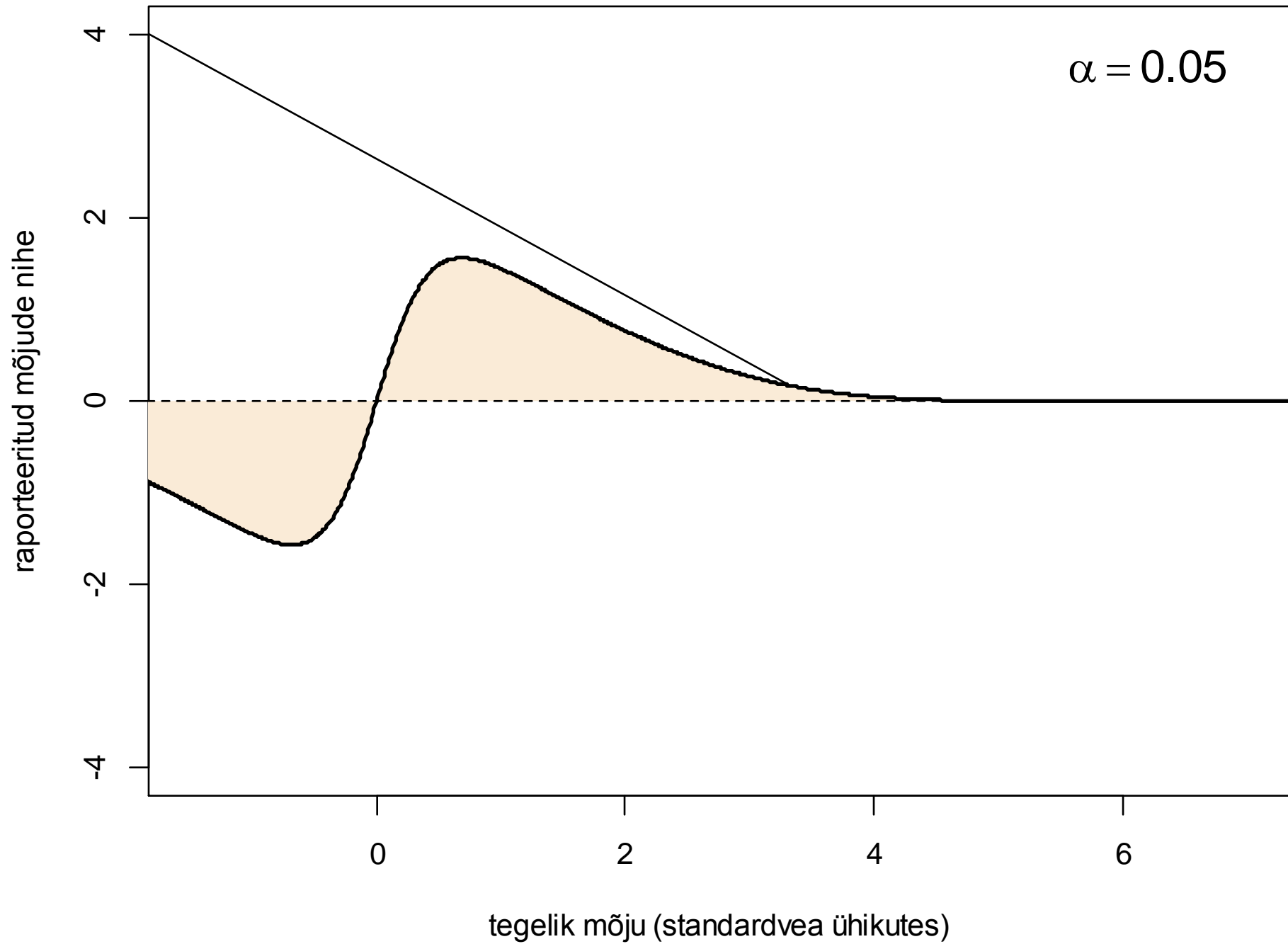


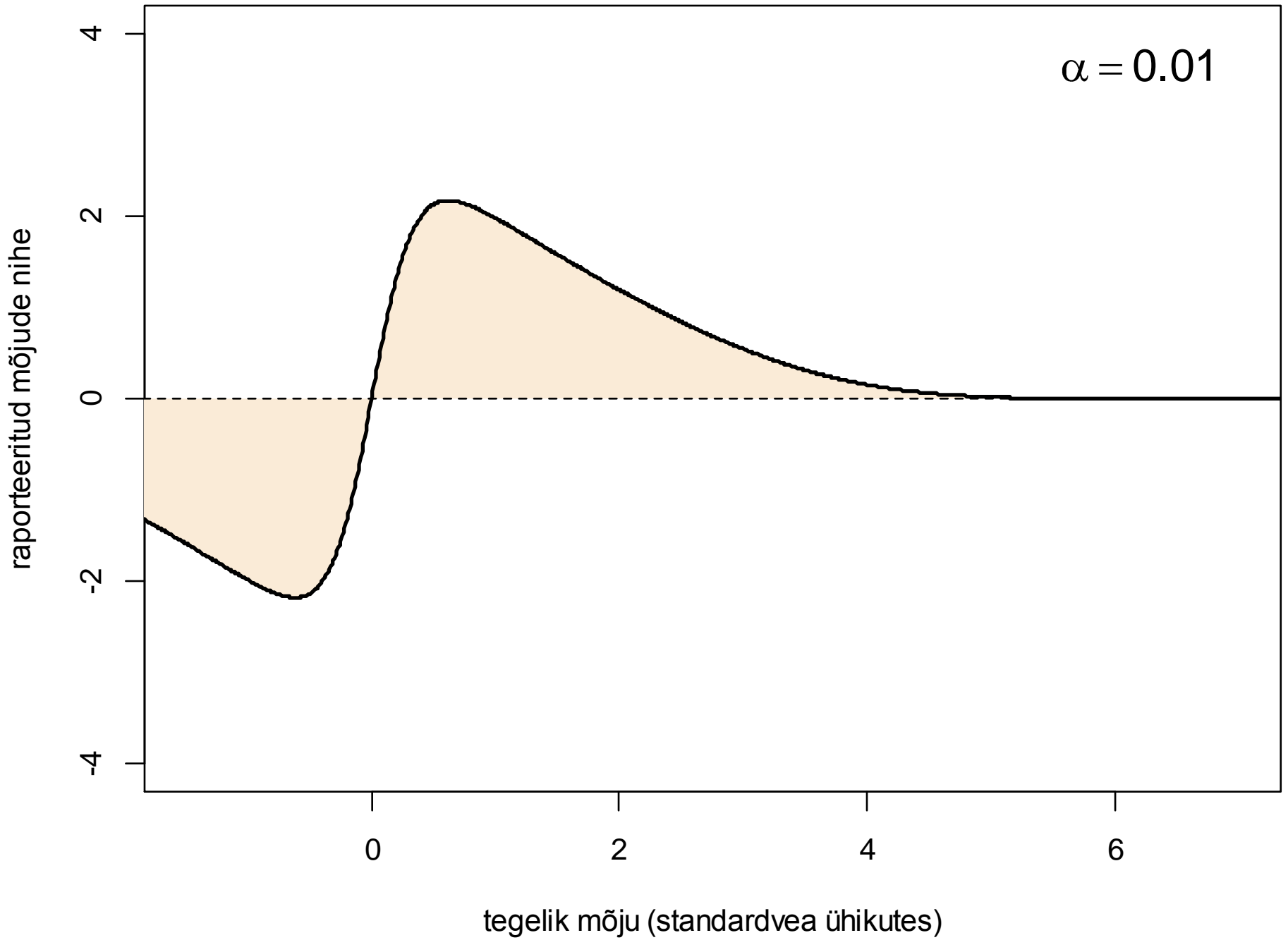
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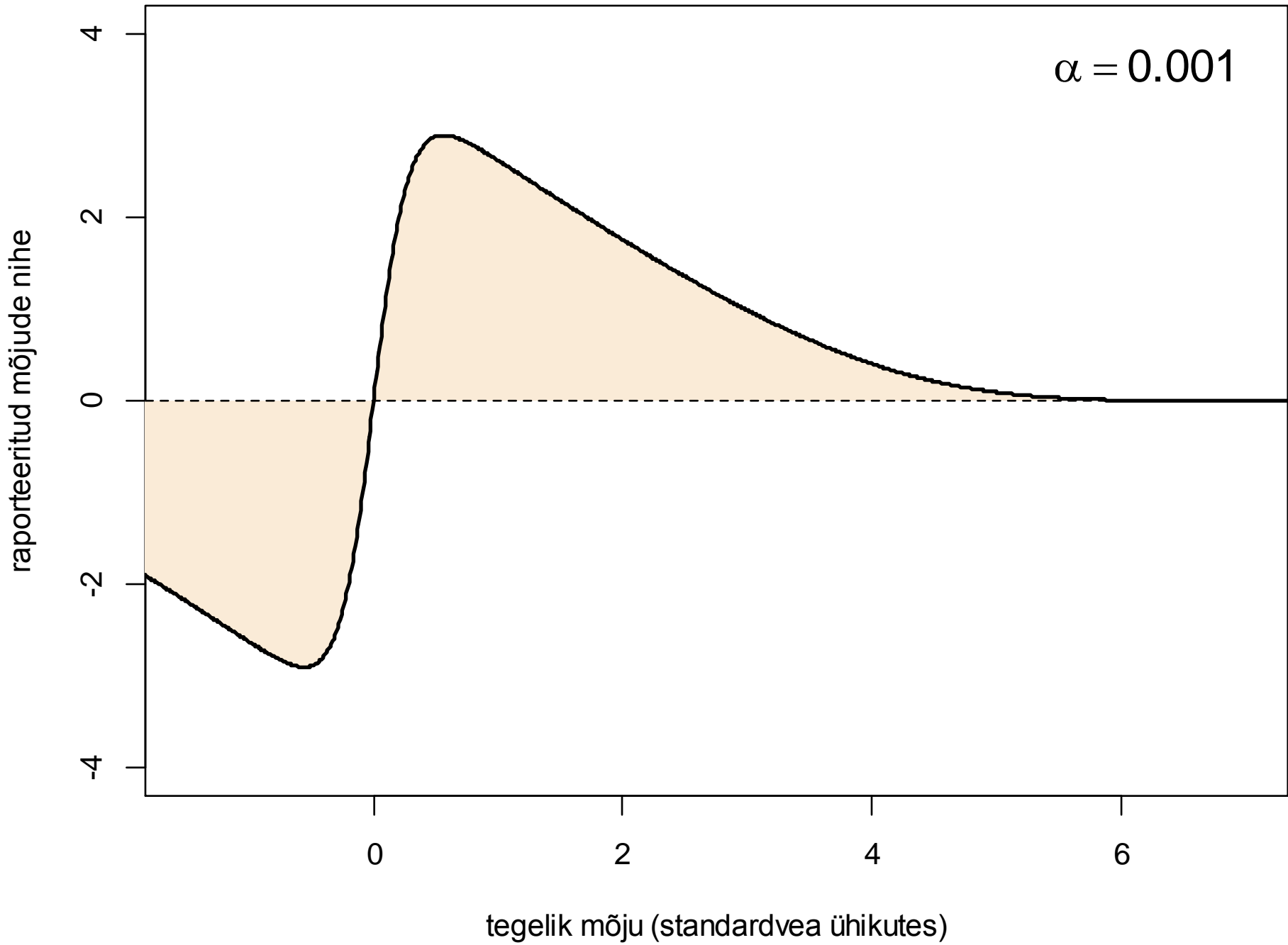


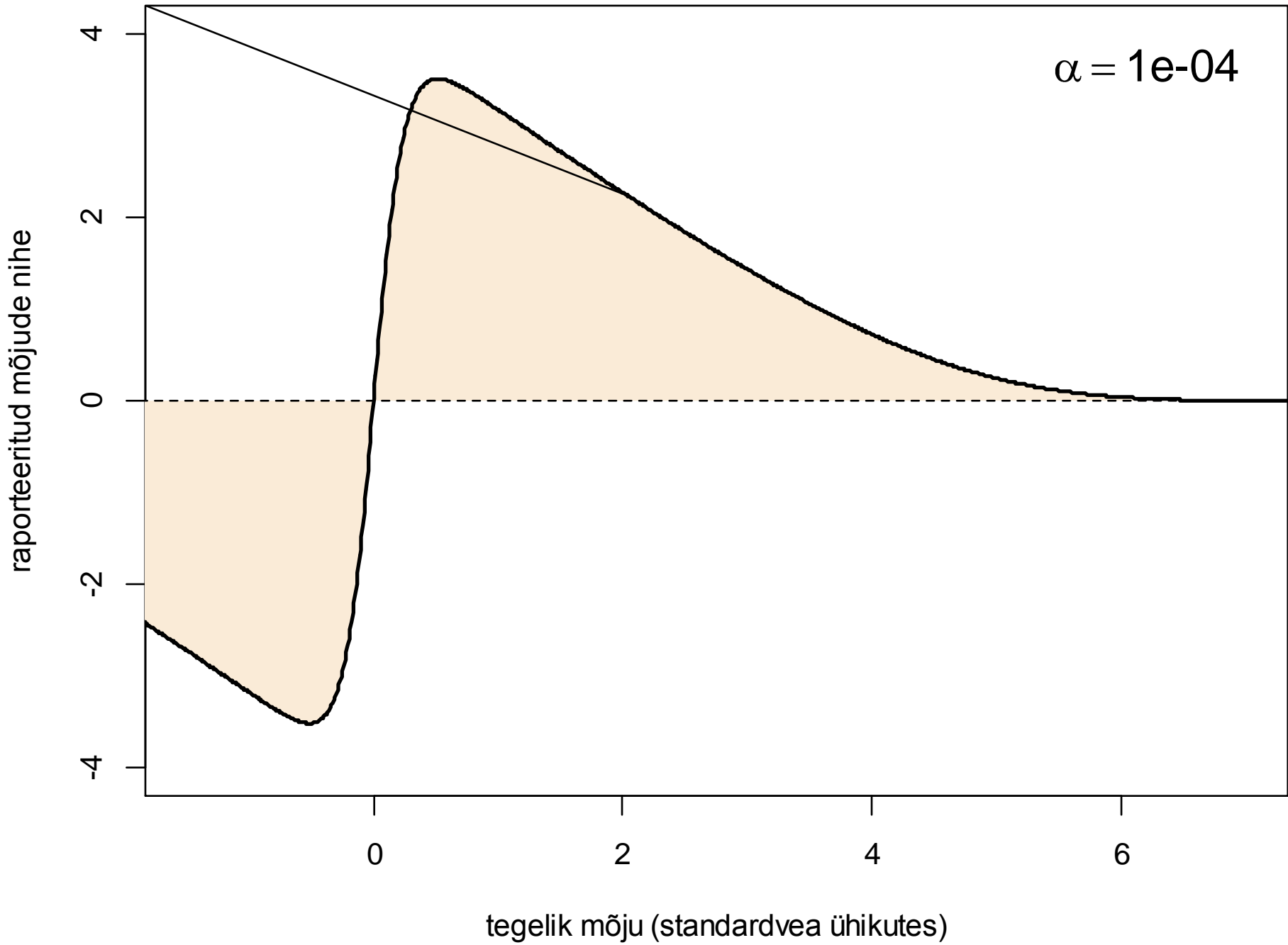
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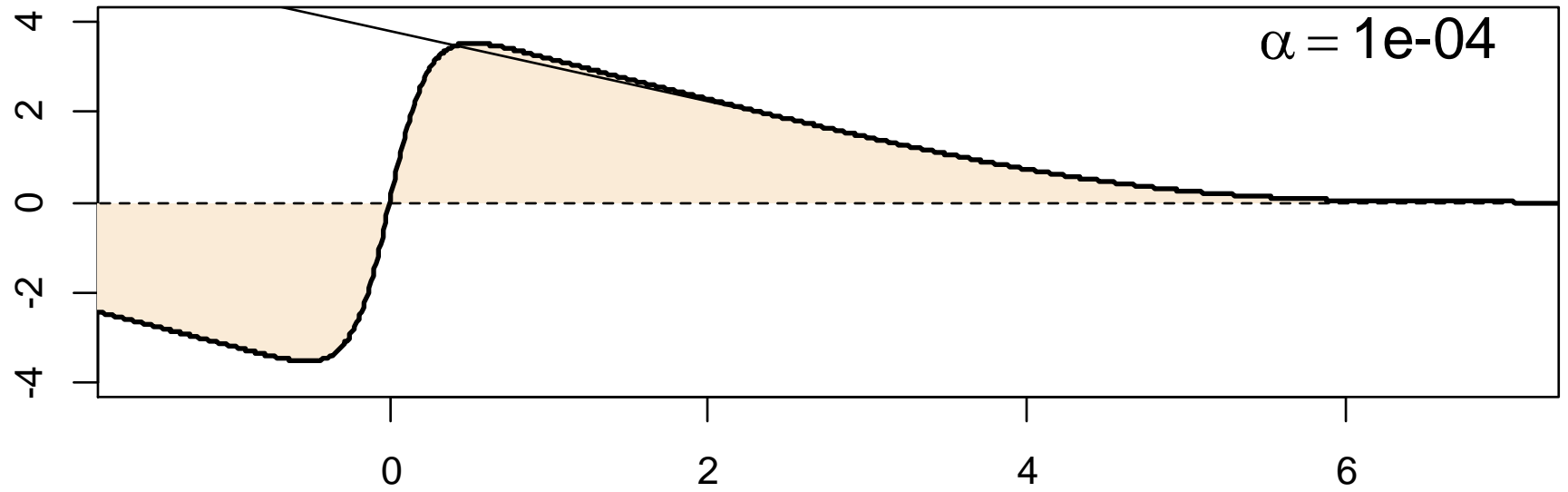






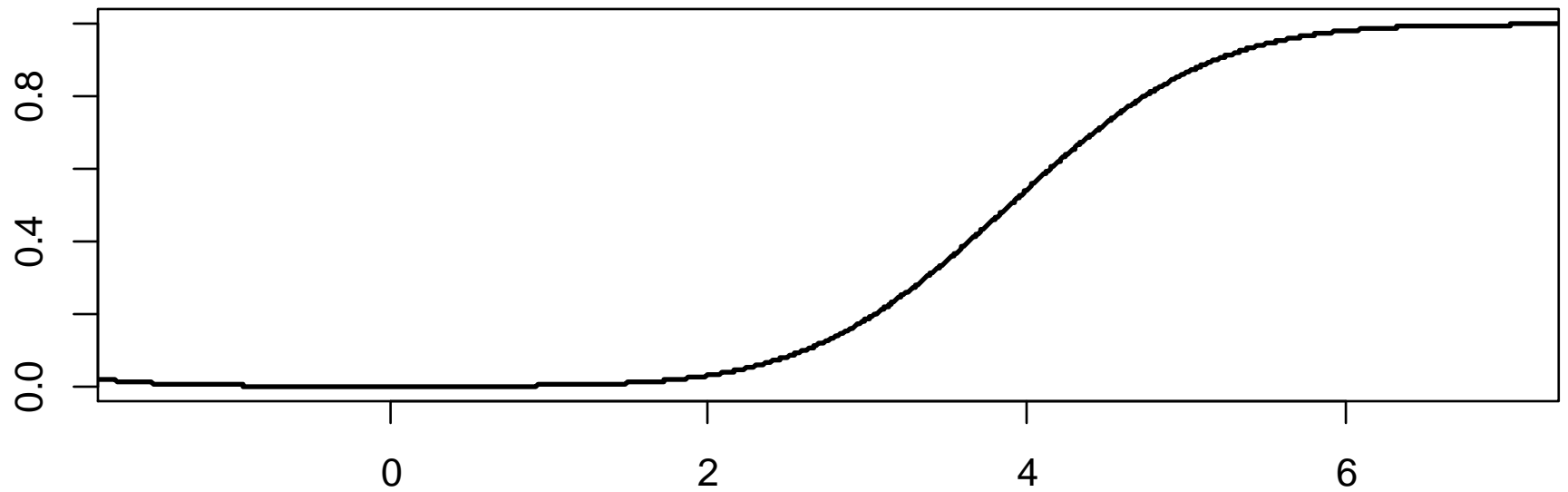


raporteeritud mõjude nihe



tegelik mõju (standardvea ühikutes)

Testi võimsus



tegelik mõju

Praktiline tähendus?

Millised geneetilised markerid tekitavad/ennustavad heinapalavikku?

23andme leiab kaks asjasepuutuvat (p -väärtus $< 10^{-8}$) markerit. Vaatame neist ühte:

Grass pollen allergy and hay fever Show results for all profiles

Journal	<i>J Allergy Clin Immunol</i>
Study Size	■■■
Replications	None
Contrary Studies	None
Applicable Ethnicities	European
Marker	rs2155219

In this study, researchers compared 2,315 people who demonstrated an allergic reaction to grass pollen to 10,032 people who did not, all of European descent. They found that individuals with the TT genotype at rs2155219 had about 1.2 times higher odds of being allergic to grass pollen compared to individuals with the GT genotype, and those with the GG genotype had about 1.2 times lower odds of being allergic to grass pollen. The odds ratio of rs2155219 was also associated with slightly higher odds of having hay fever.

Who	Genotype	What It Means
	TT	Slightly higher odds of being allergic to grass pollen and having hay fever.
Märt Möls,	GT	Typical odds of being allergic to grass pollen and having hay fever.
	GG	Slightly lower odds of being allergic to grass pollen and having hay fever.

OR=1,22; p-väärtus: $9,4 \cdot 10^{-9}$

Citations

Ramasamy A et al. (2011). "A genome-wide meta-analysis of genetic variants associated with allergic rhinitis and grass sensitization and their interaction with birth order." *J Allergy Clin Immunol* 128(5):996-1005.

OR=1,22;

p-väärtus: $9,4 \cdot 10^{-9}$

=> s.e. = 0.032635..

Valime välja ainult tulemused, mille p-väärtus väiksem kui $1 \cdot 10^{-8}$.

Kui hinnang OR-le oleks tulnud väiksem kui 1,219658, siis poleks antud SNP meie vaatevälja sattunud...

Kuidas interpreteerida tulemust?

Artiklis leiti, et antud SNP-i OR on

(hinnanguliselt) 1,22.

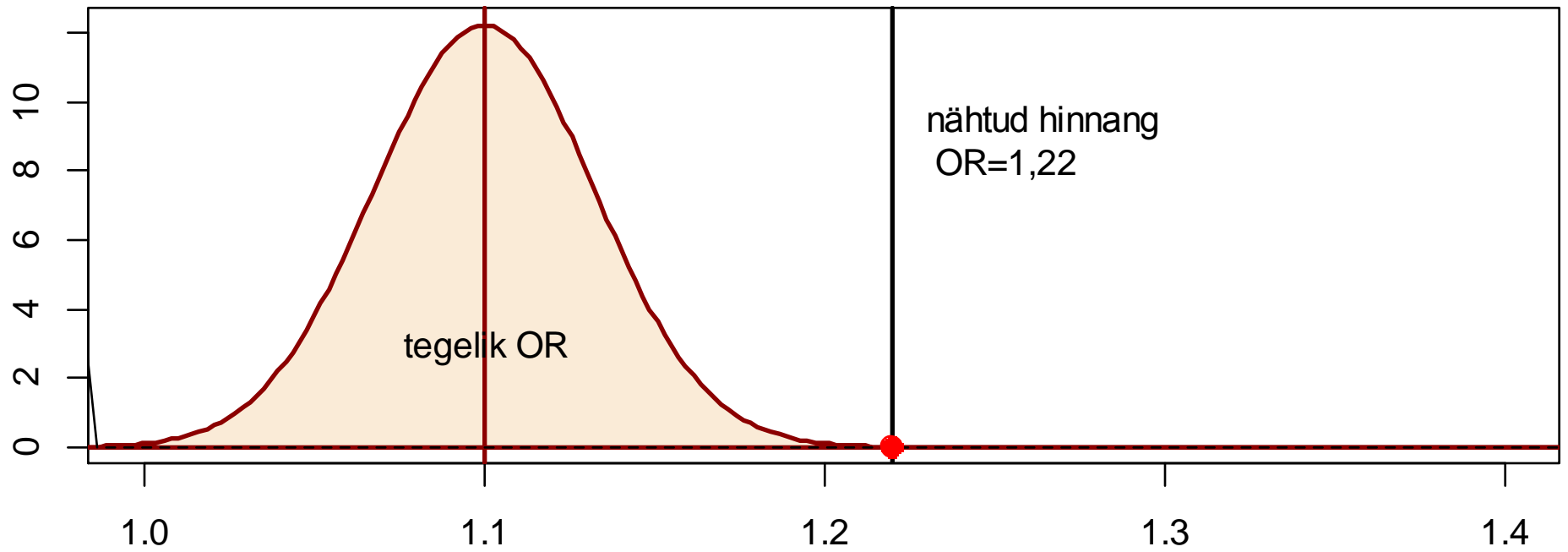
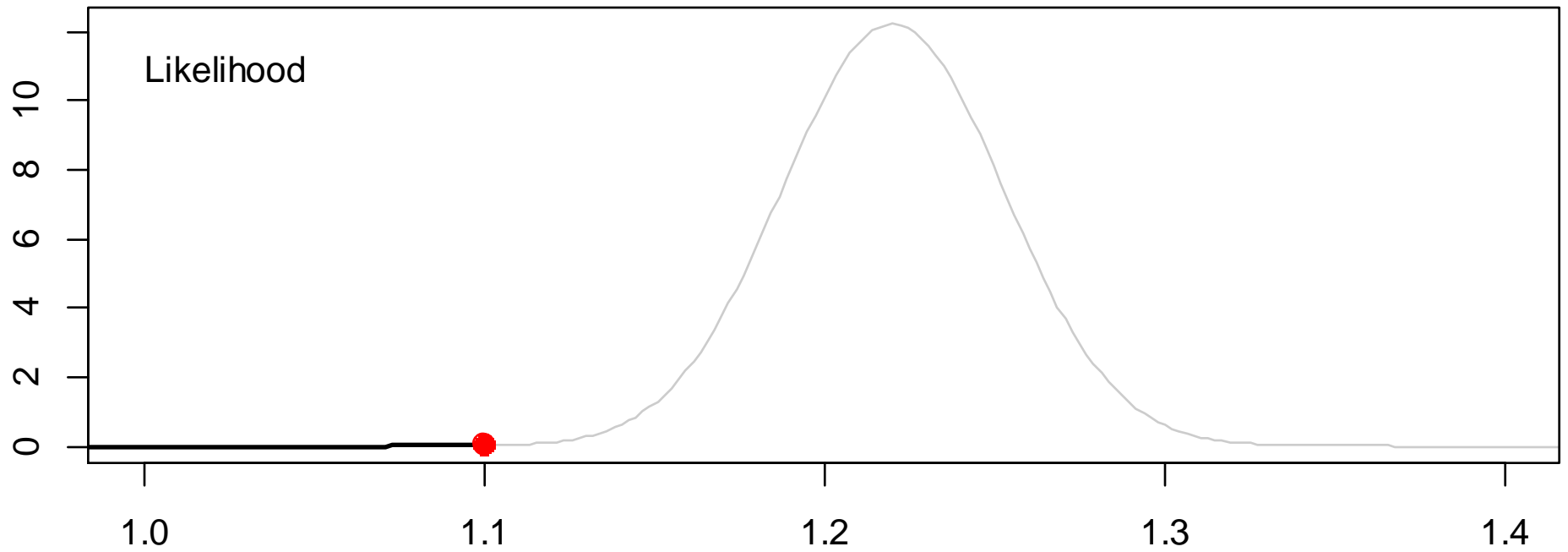
Millise tegeliku OR (odds ratio) väärtuse korral oleks kõige tõenäolisem näha väärtust 1,22?

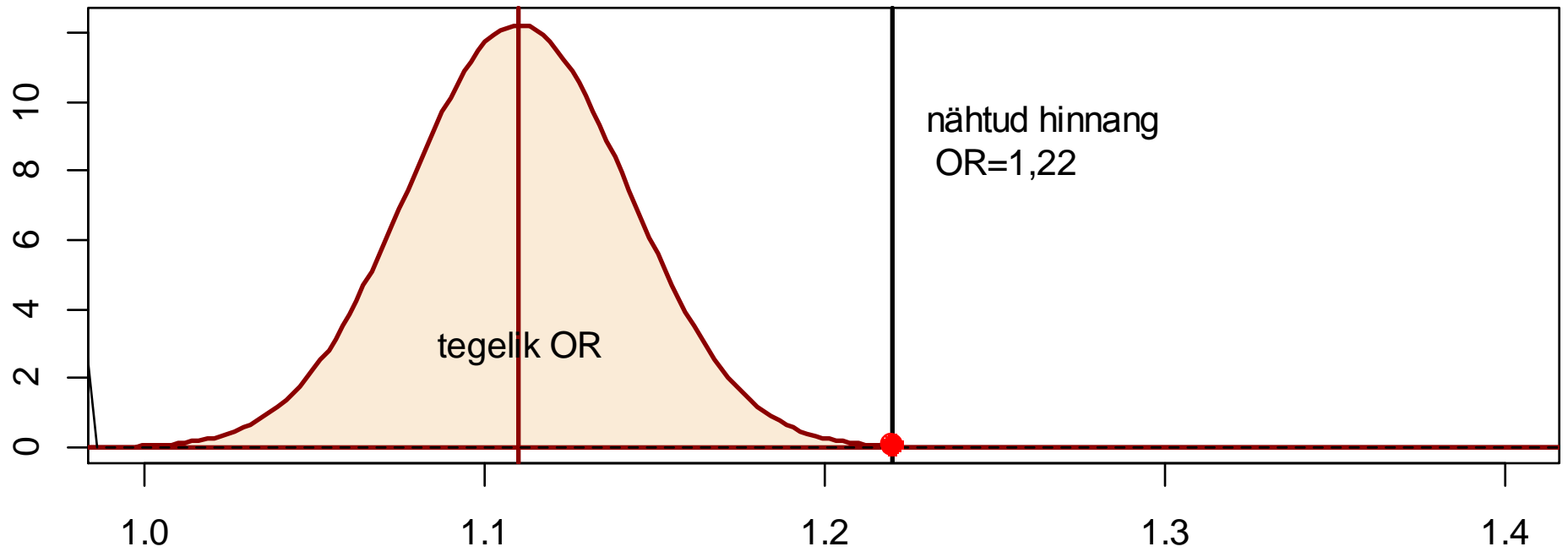
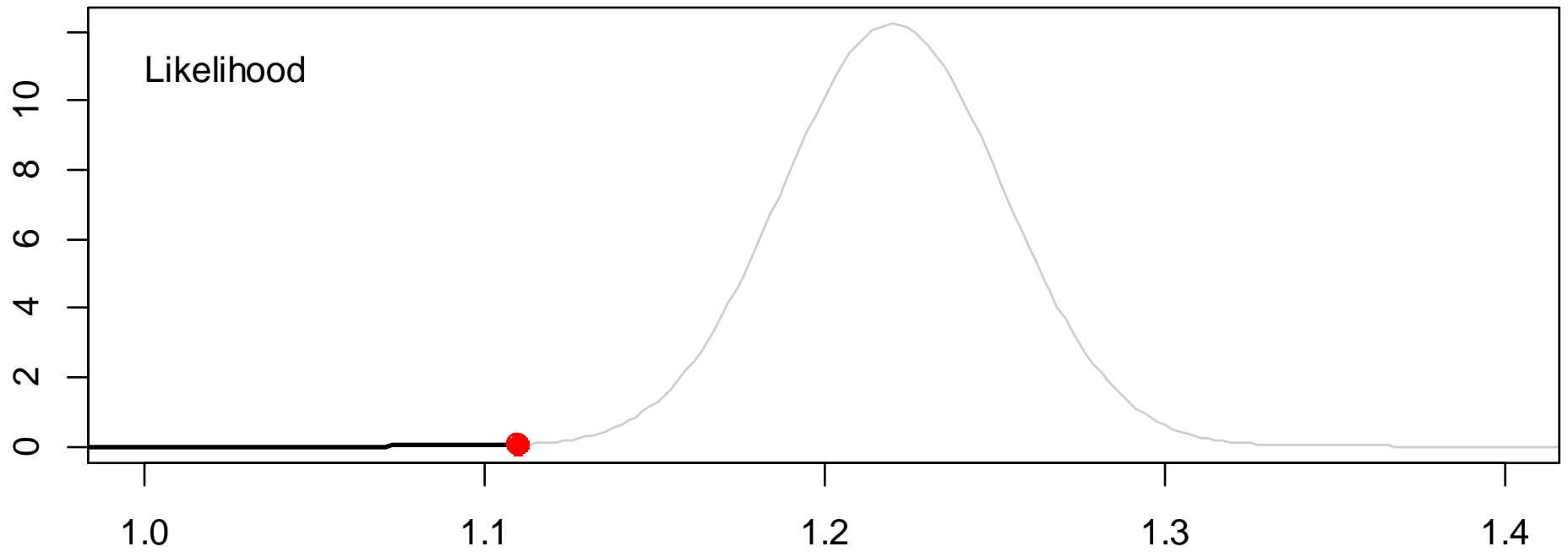
Suurima tõepära meetod (arvame hinnatavaks väärtuseks sellise väärtuse, mille puhul nähtud vaatluste – valimi – saamise tõenäosus oleks maksimaalne).

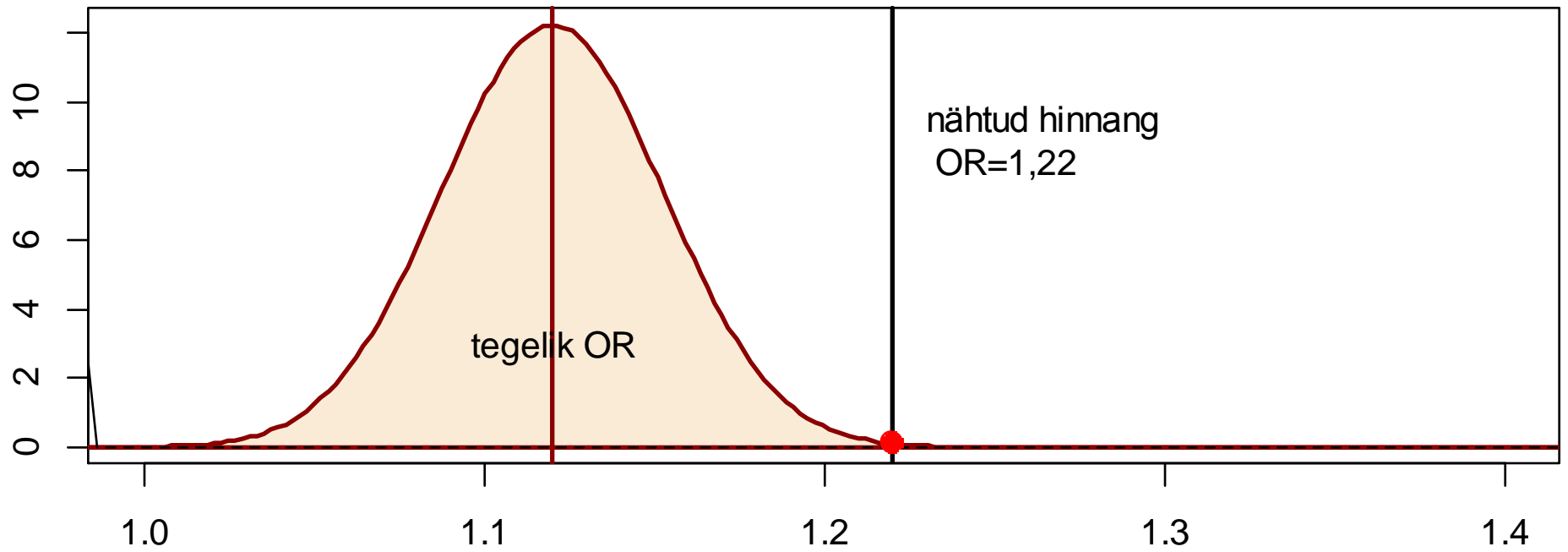
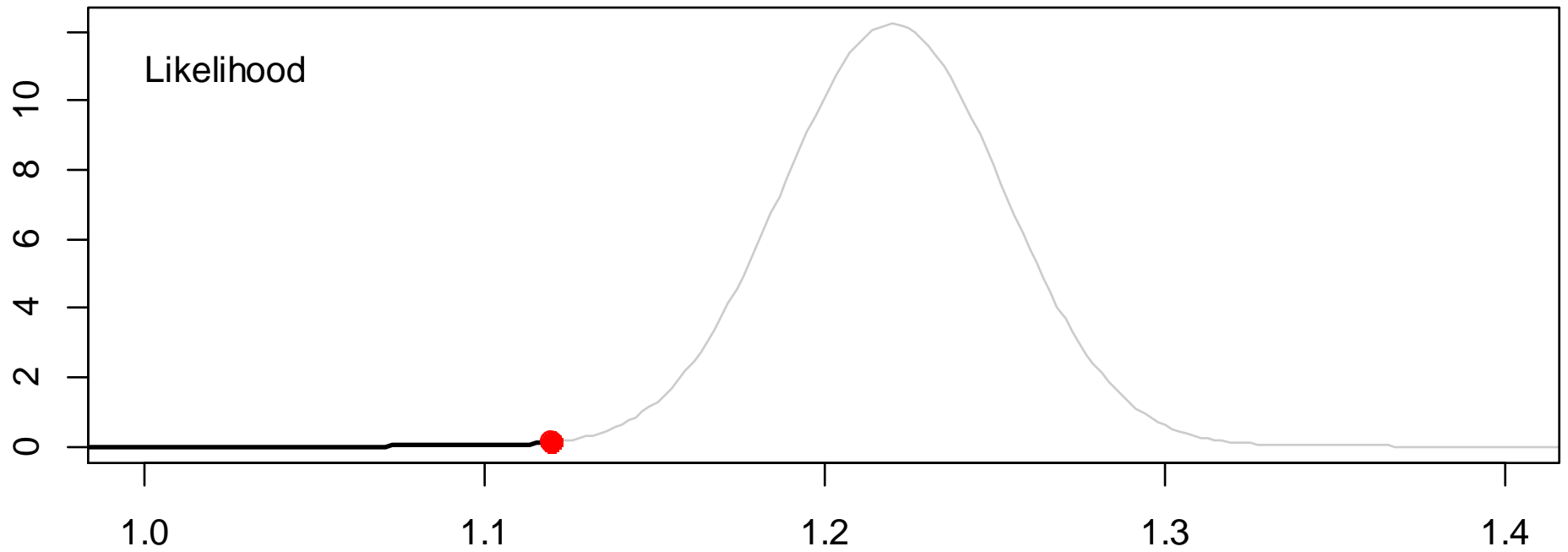
Variant A

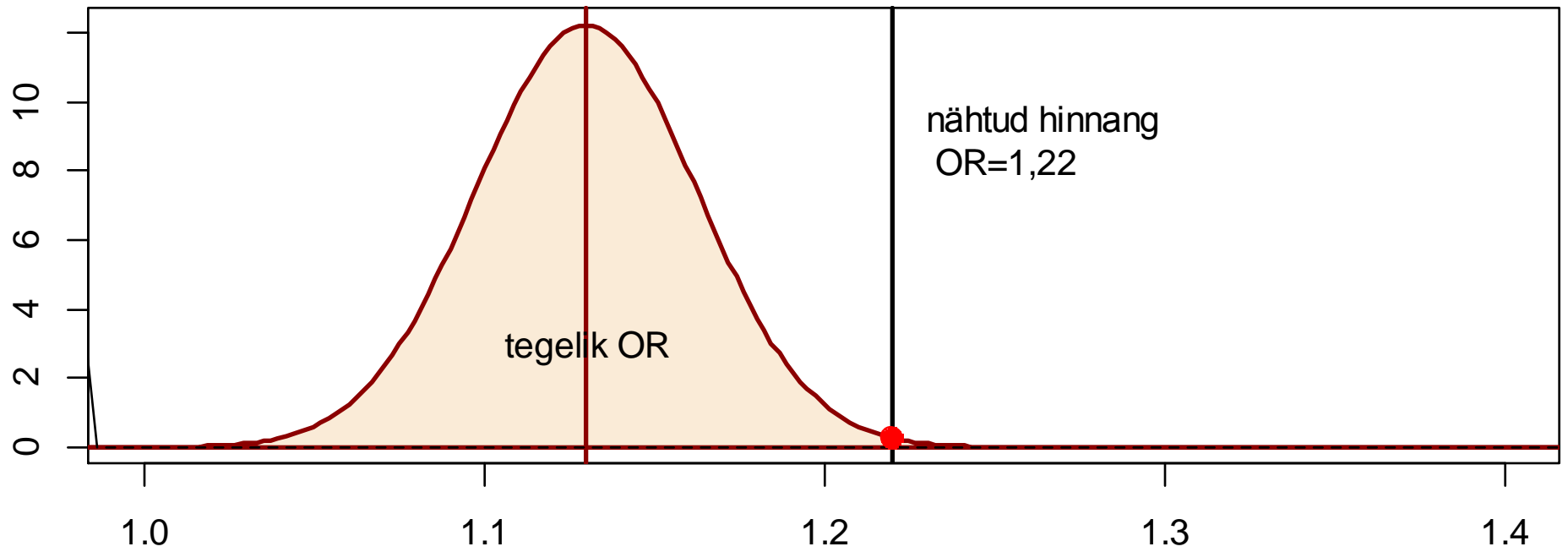
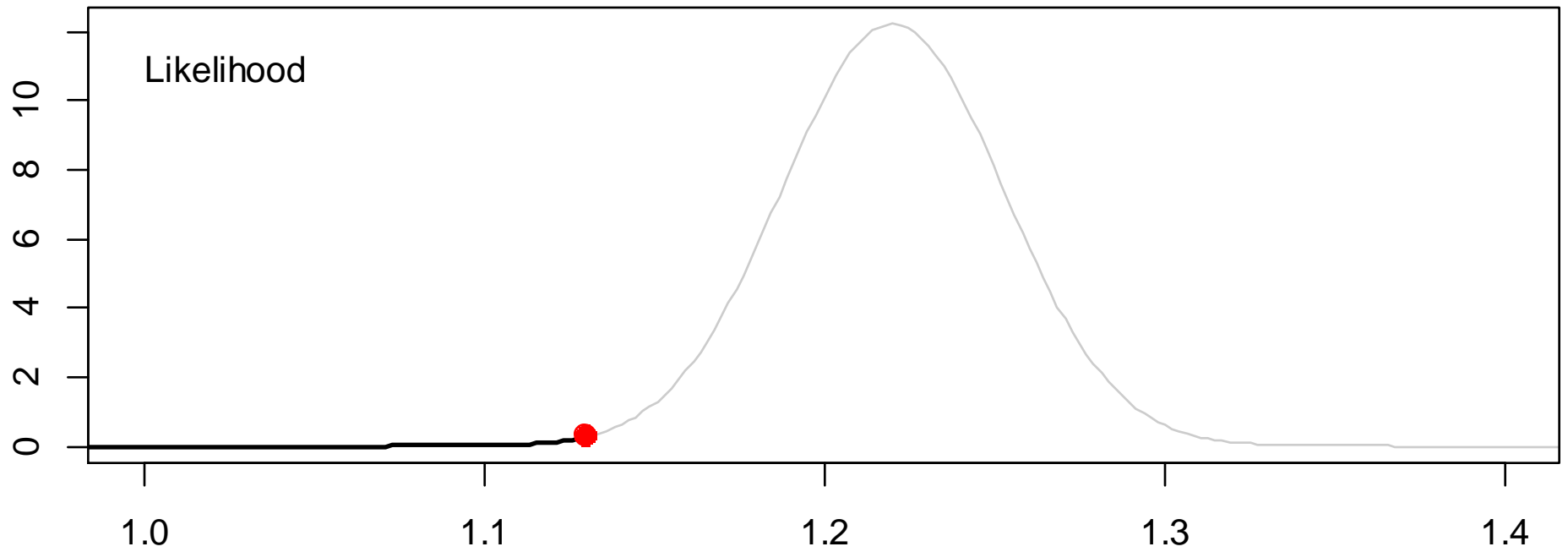
Suurima tõepära hinnang siis, kui tulemuste selektsiooni ei toimu

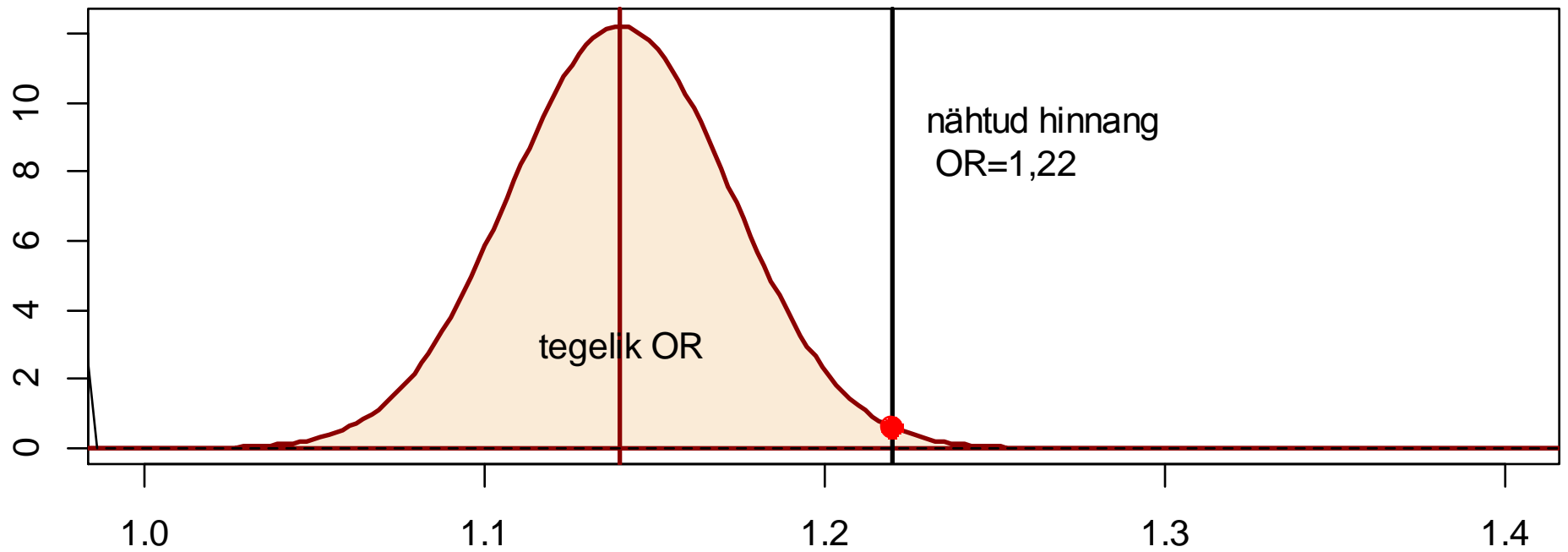
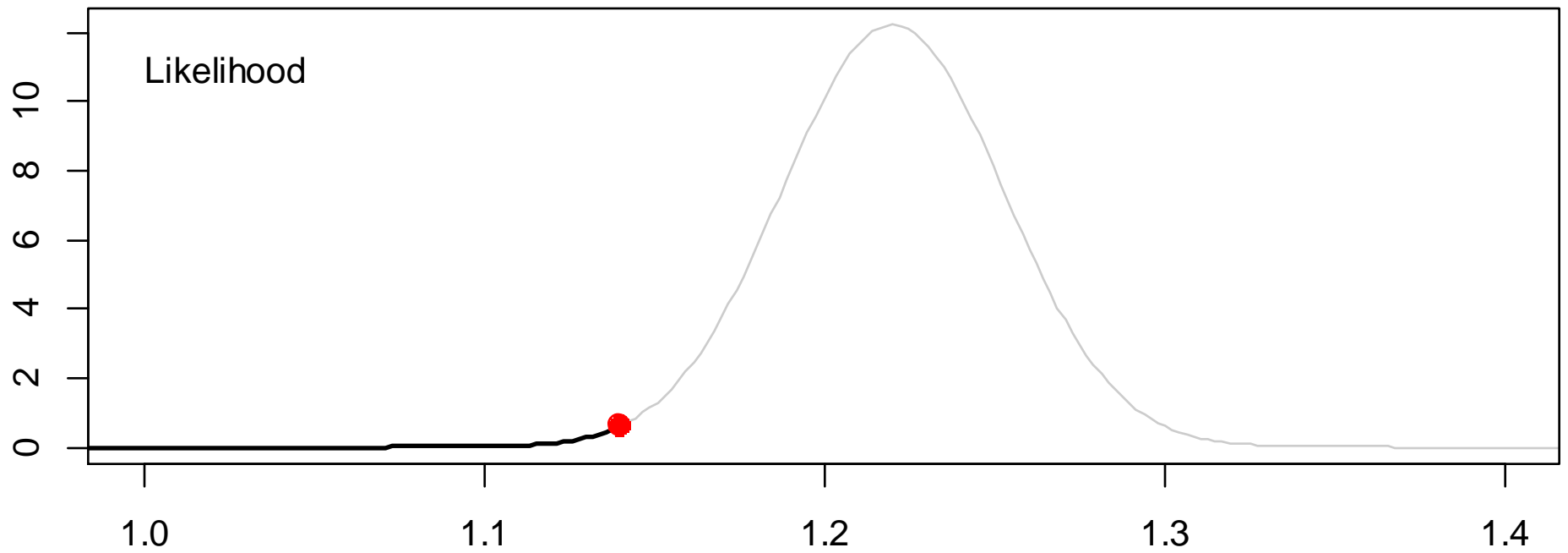
kui oleksime võtnud suvalise SNP-i, mõõtnud tema mõju ja saanud tulemuseks $OR=1,22$

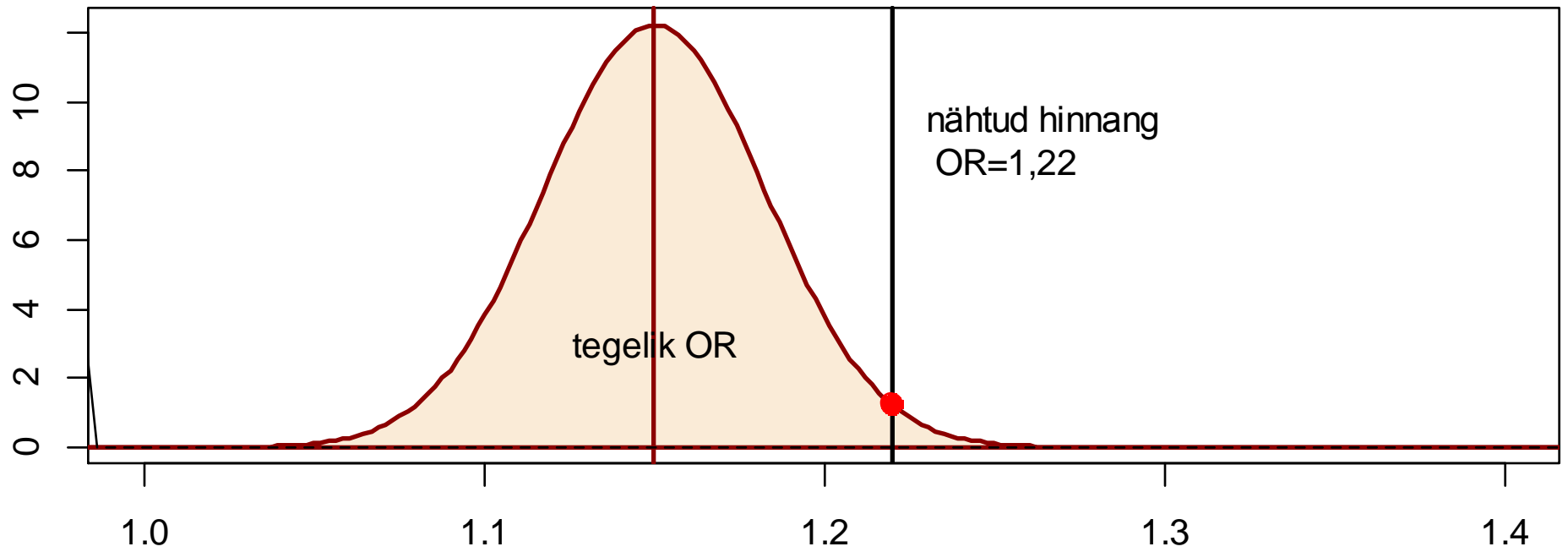
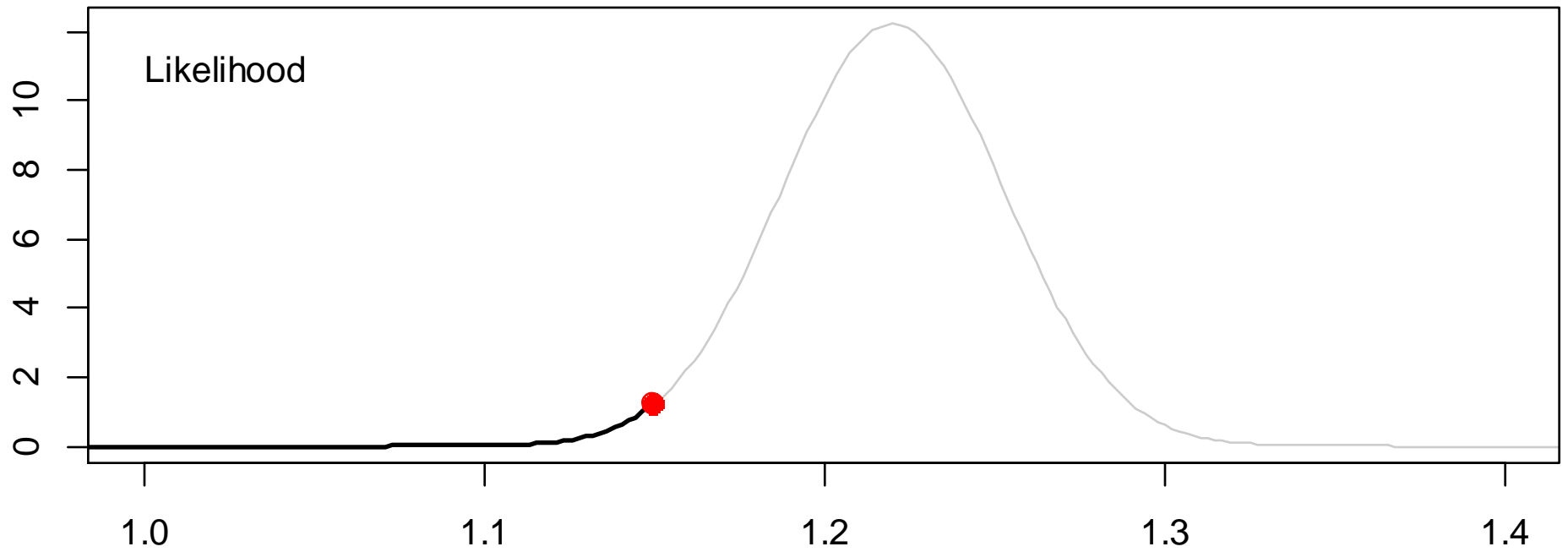


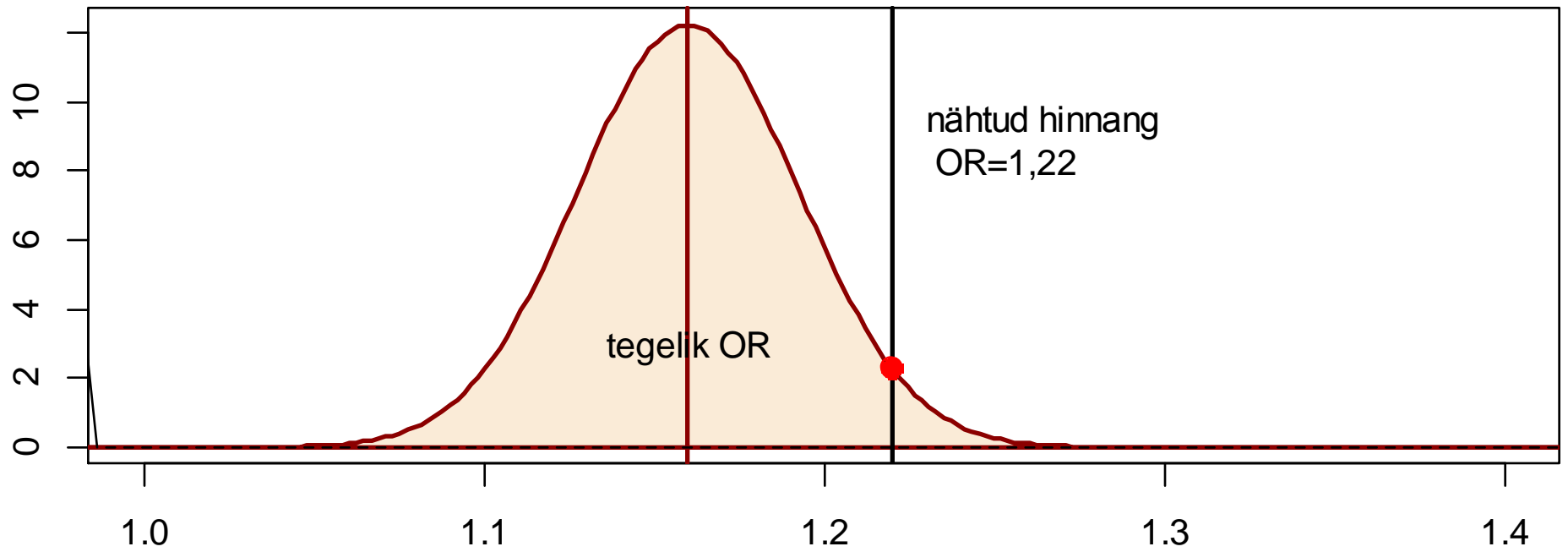
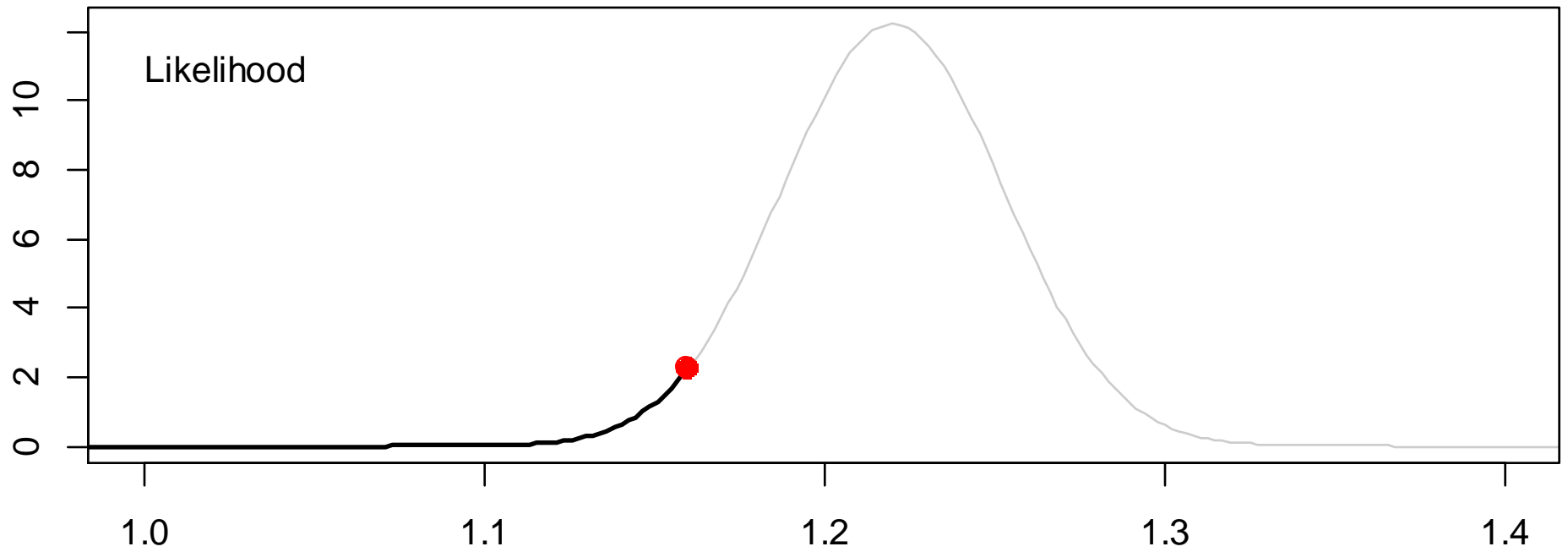


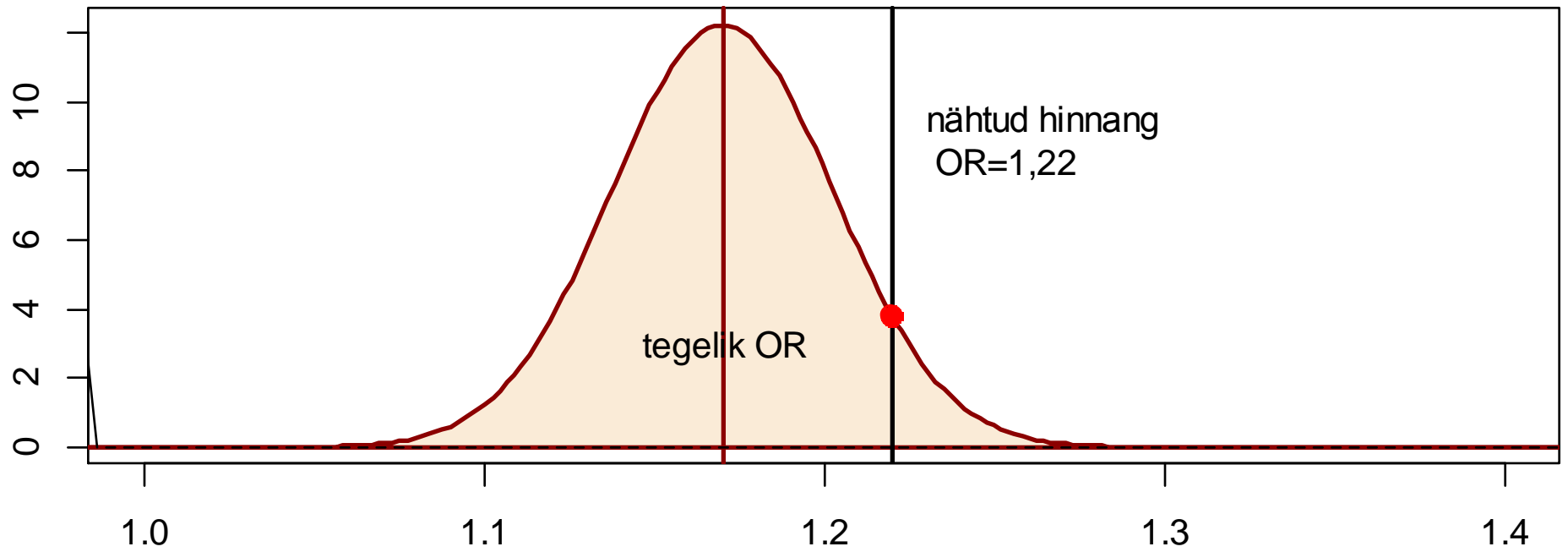
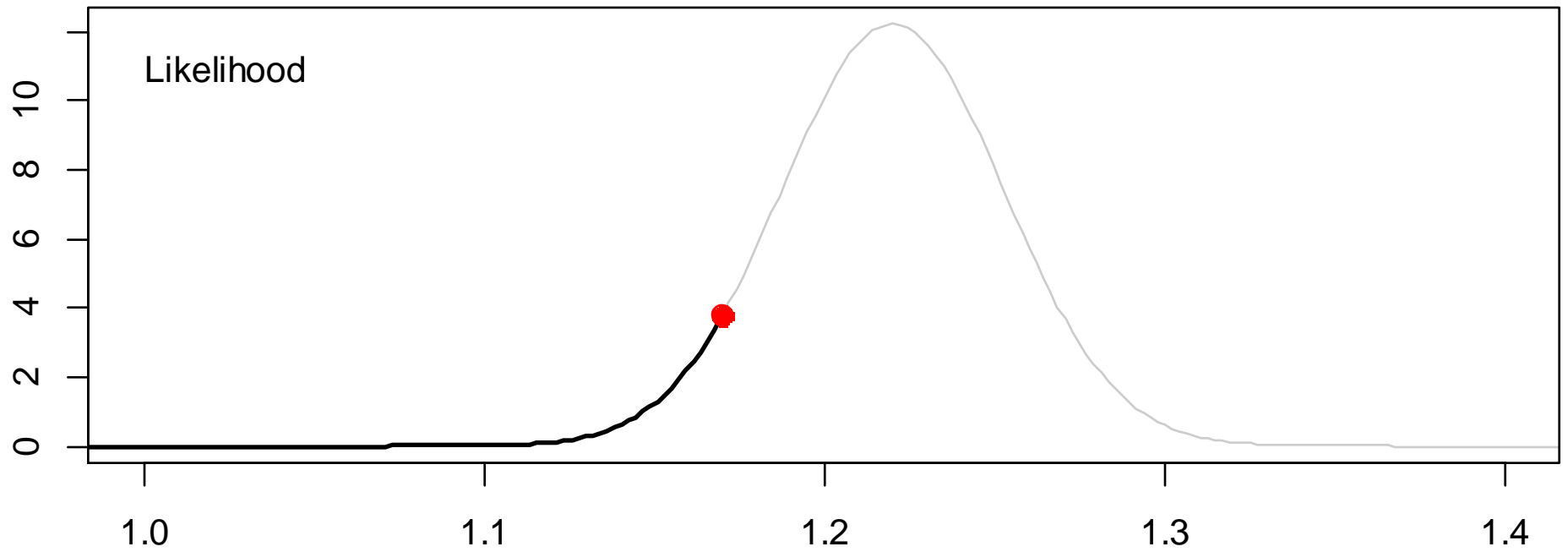


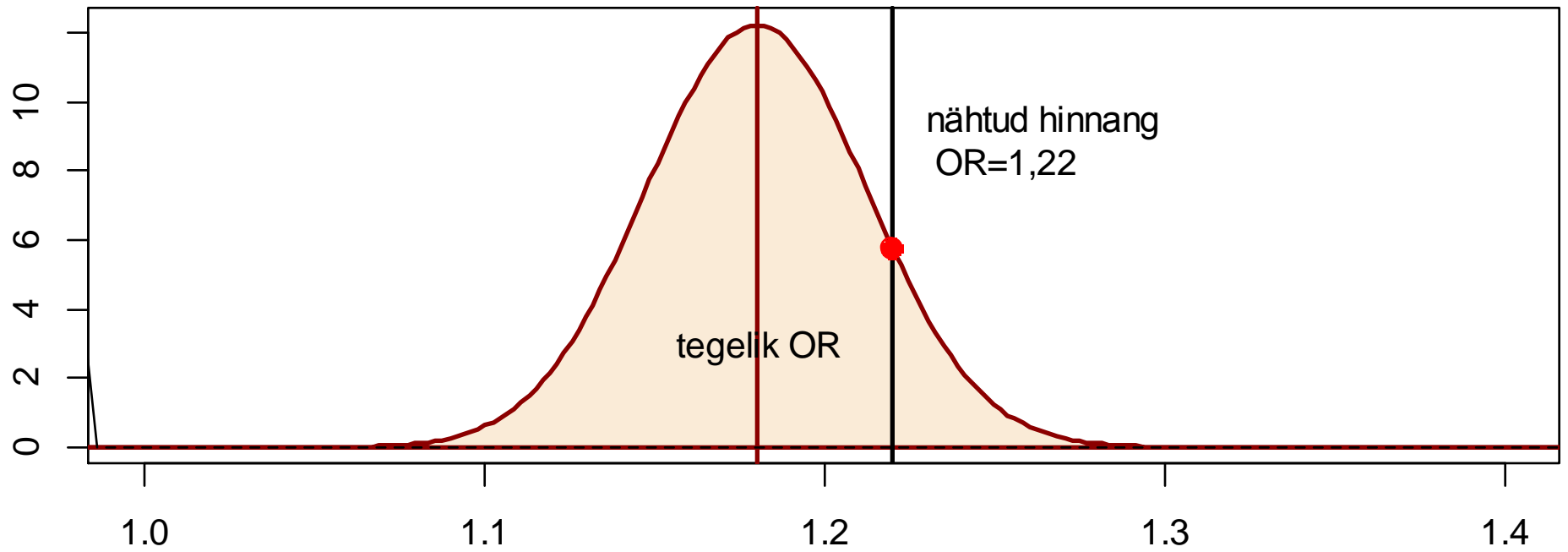
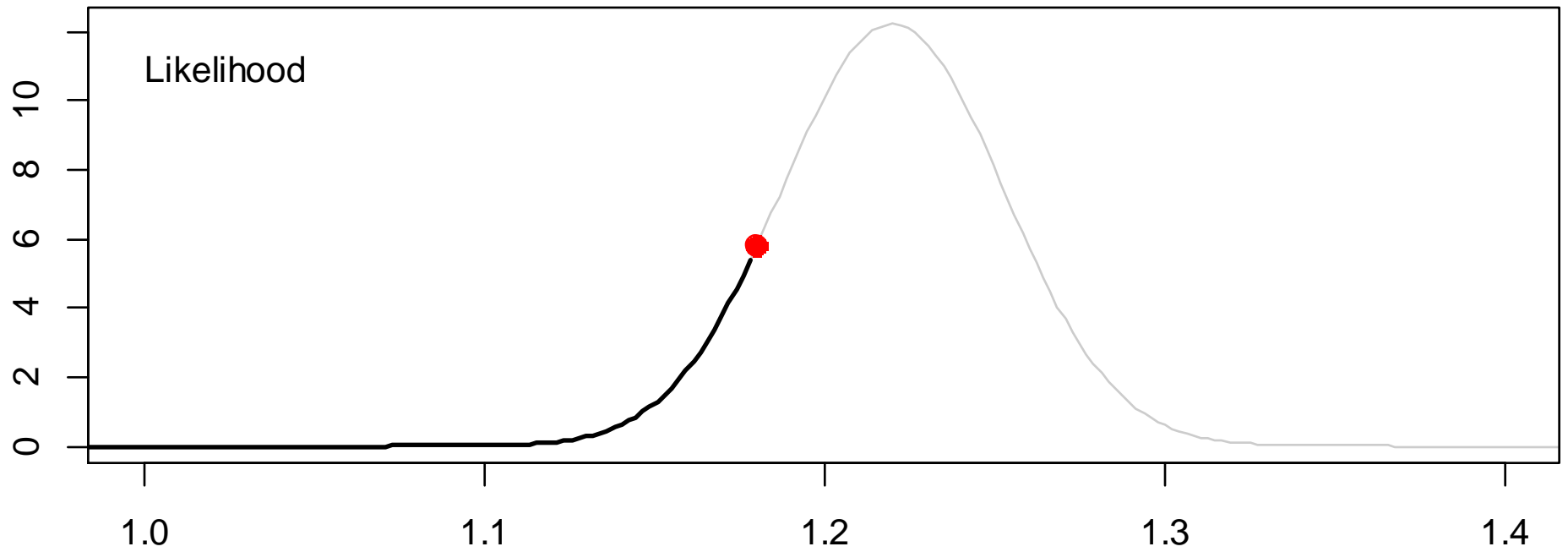


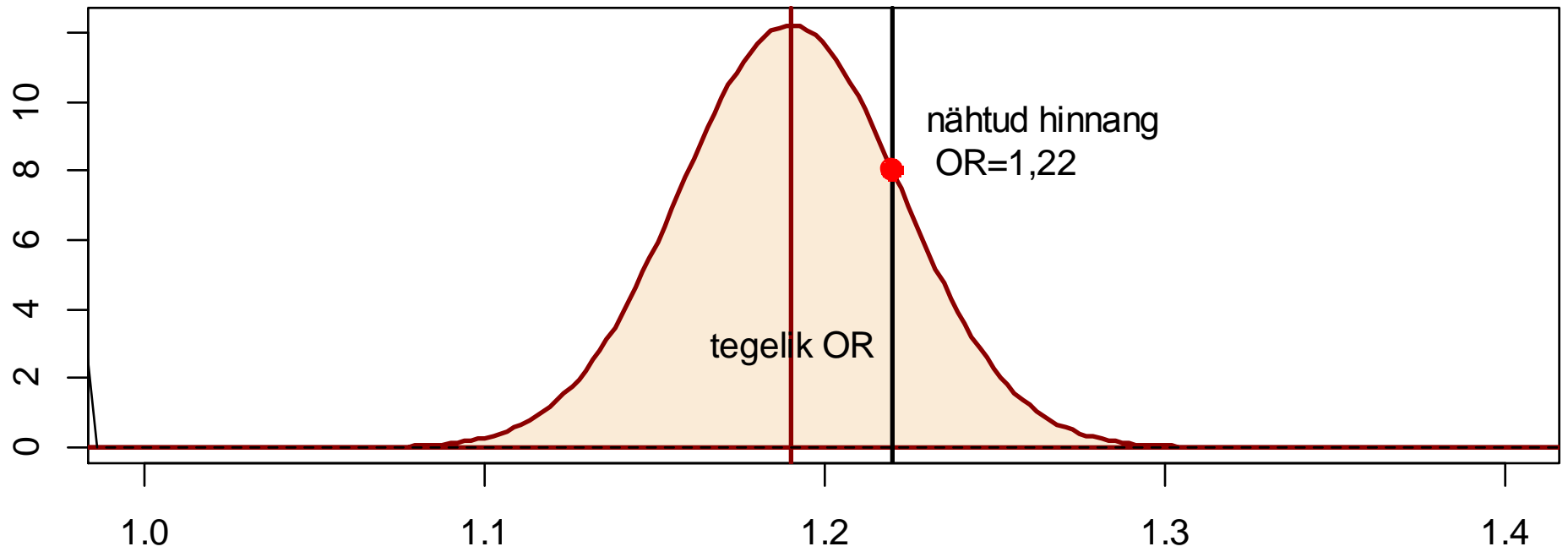
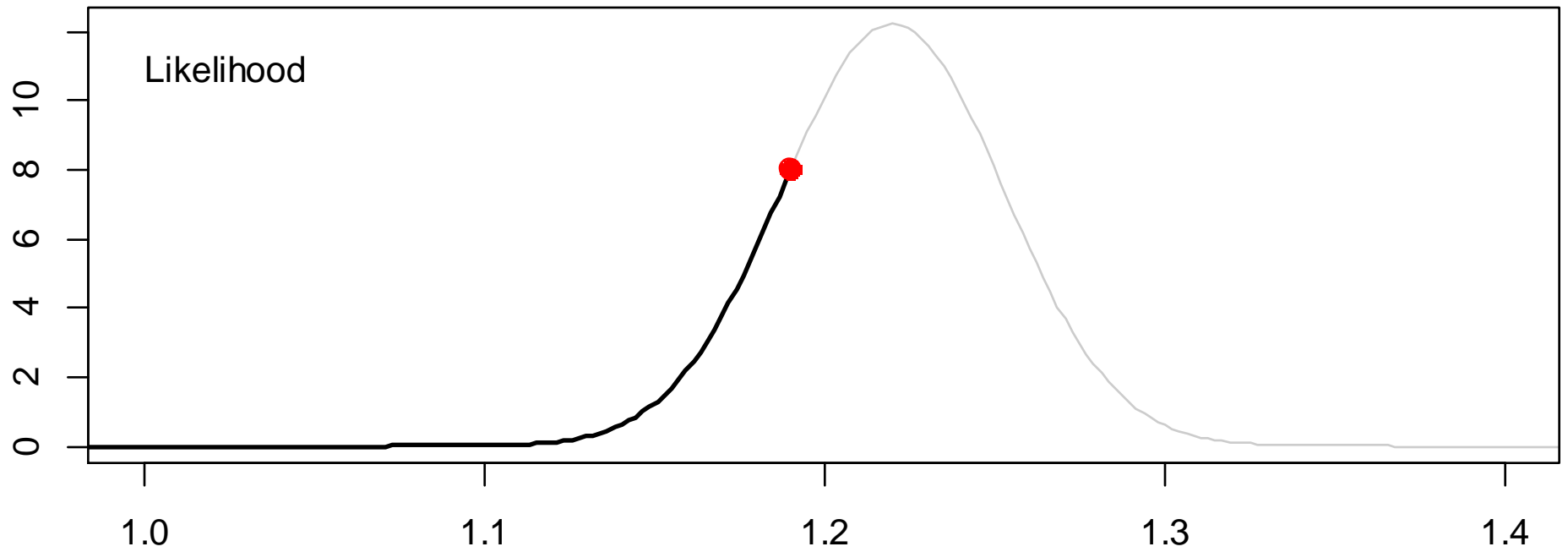


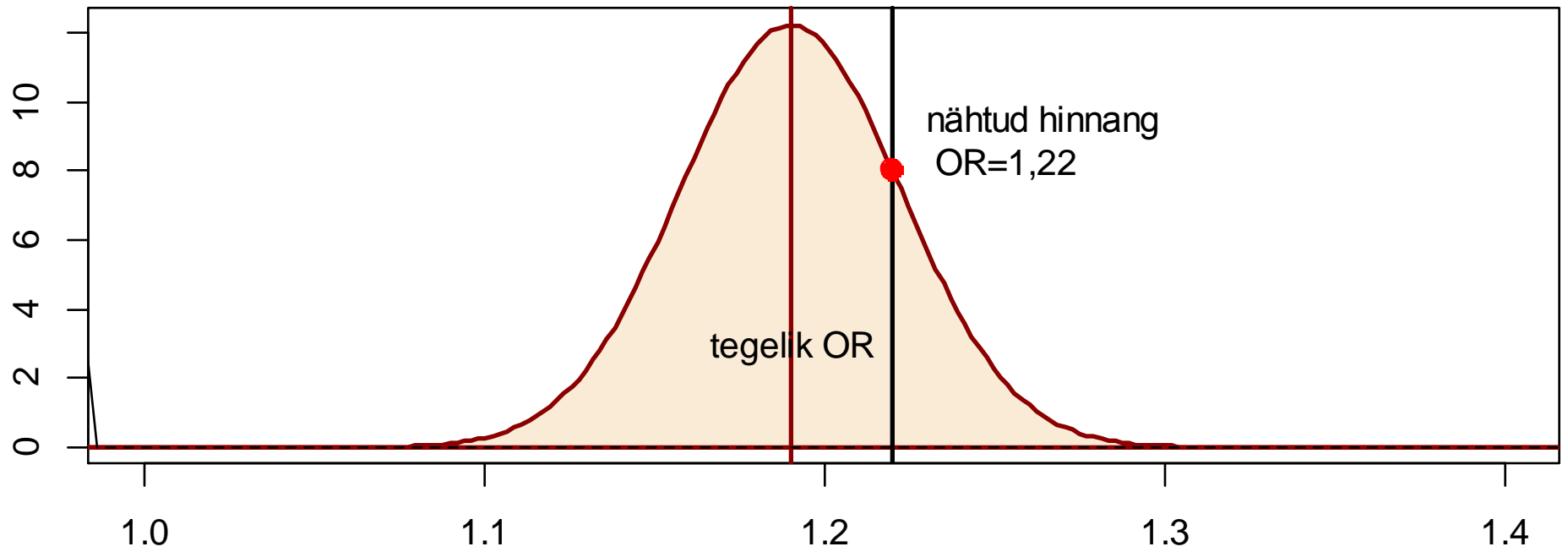
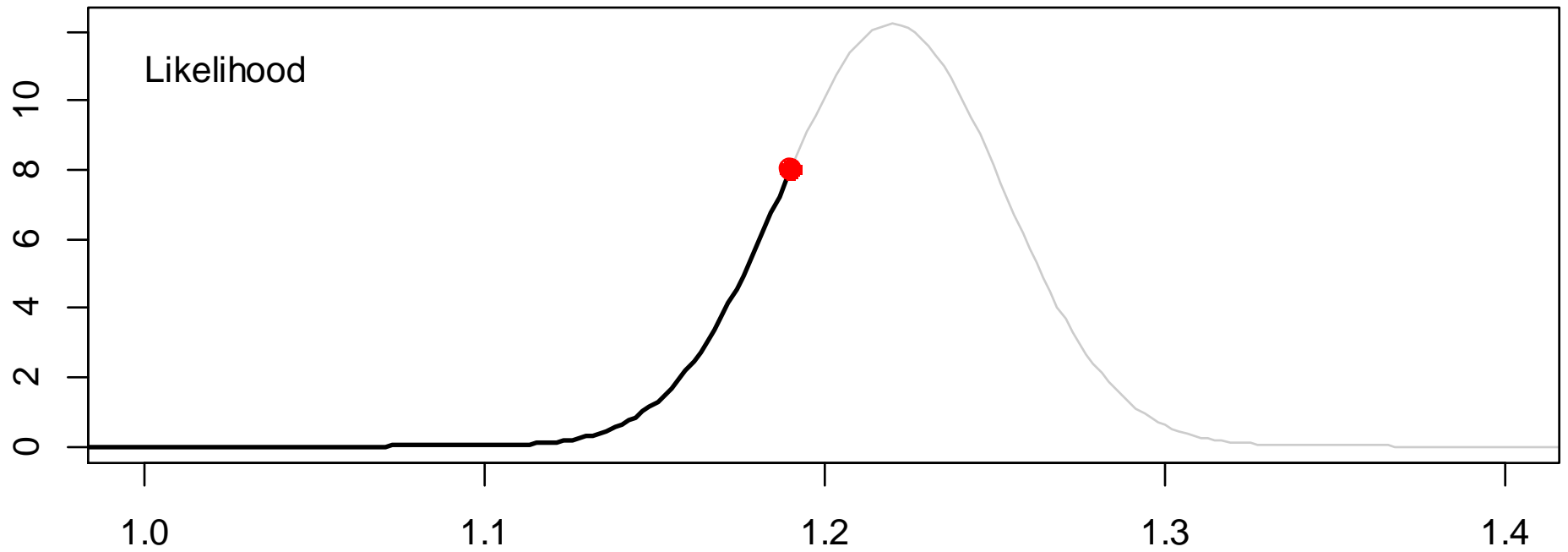


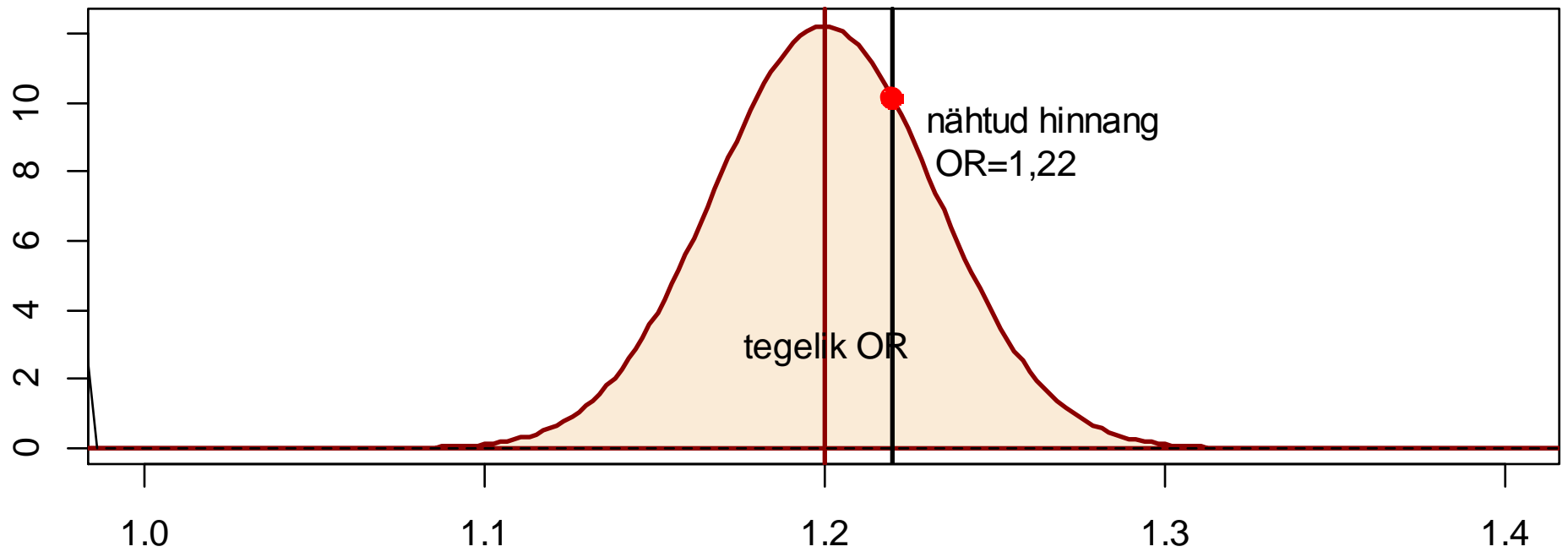
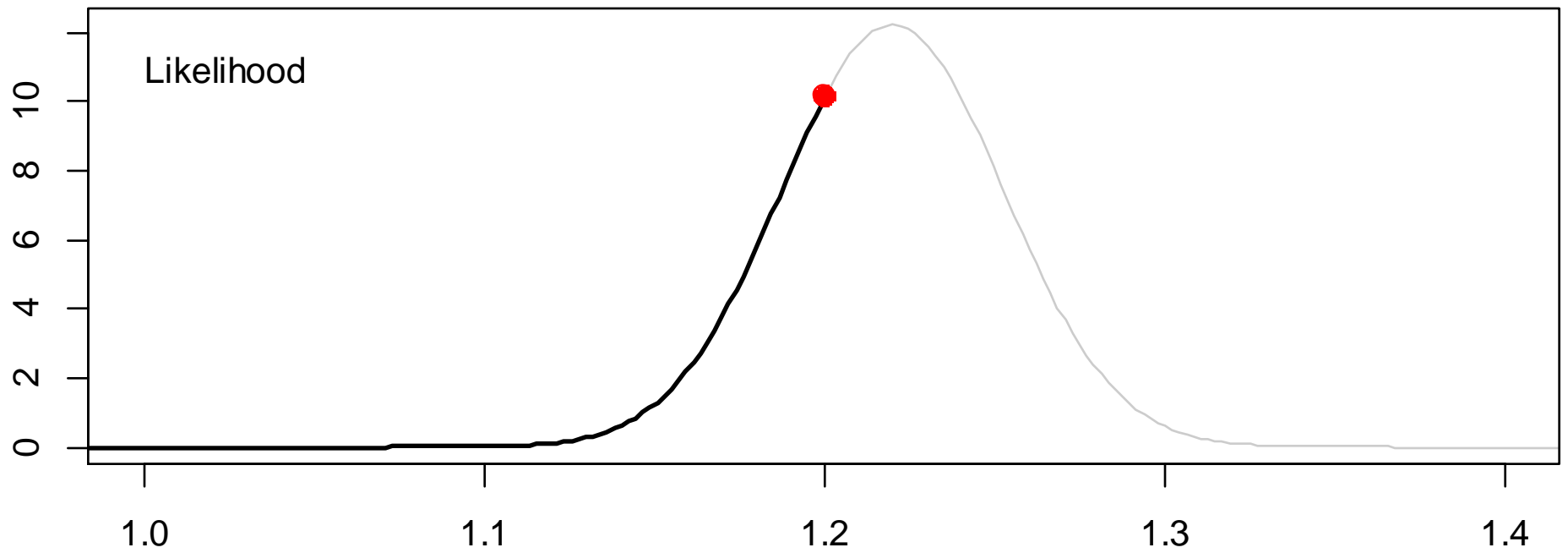


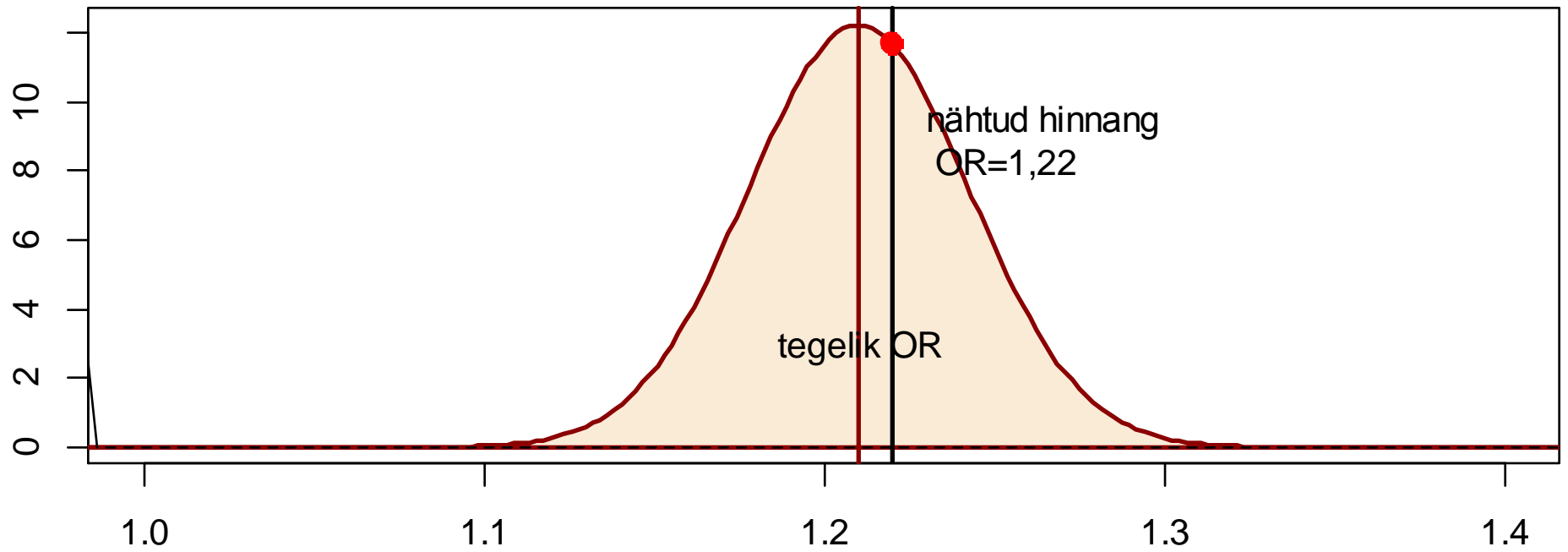
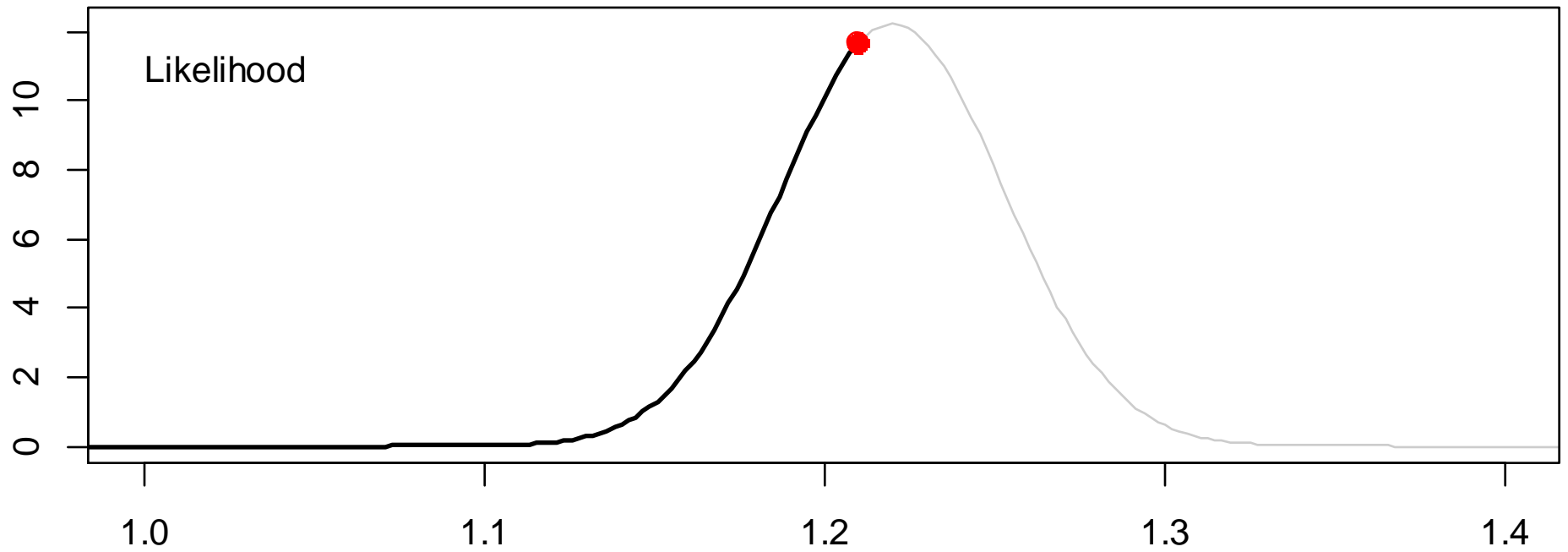


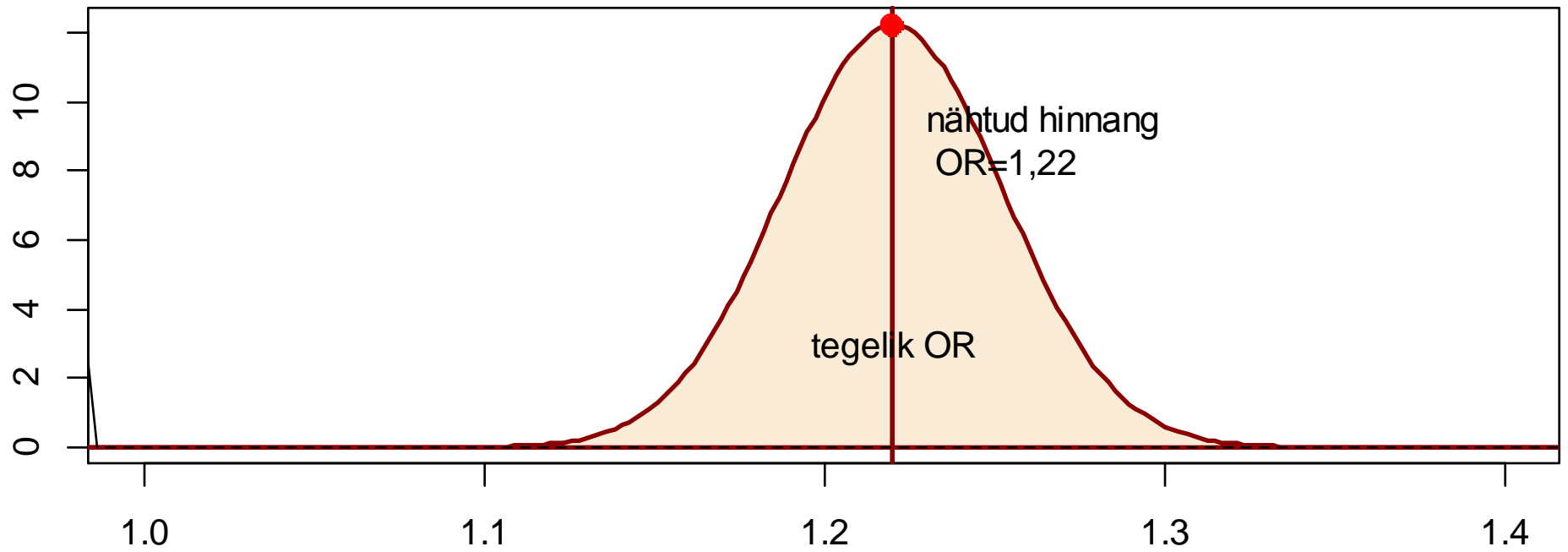
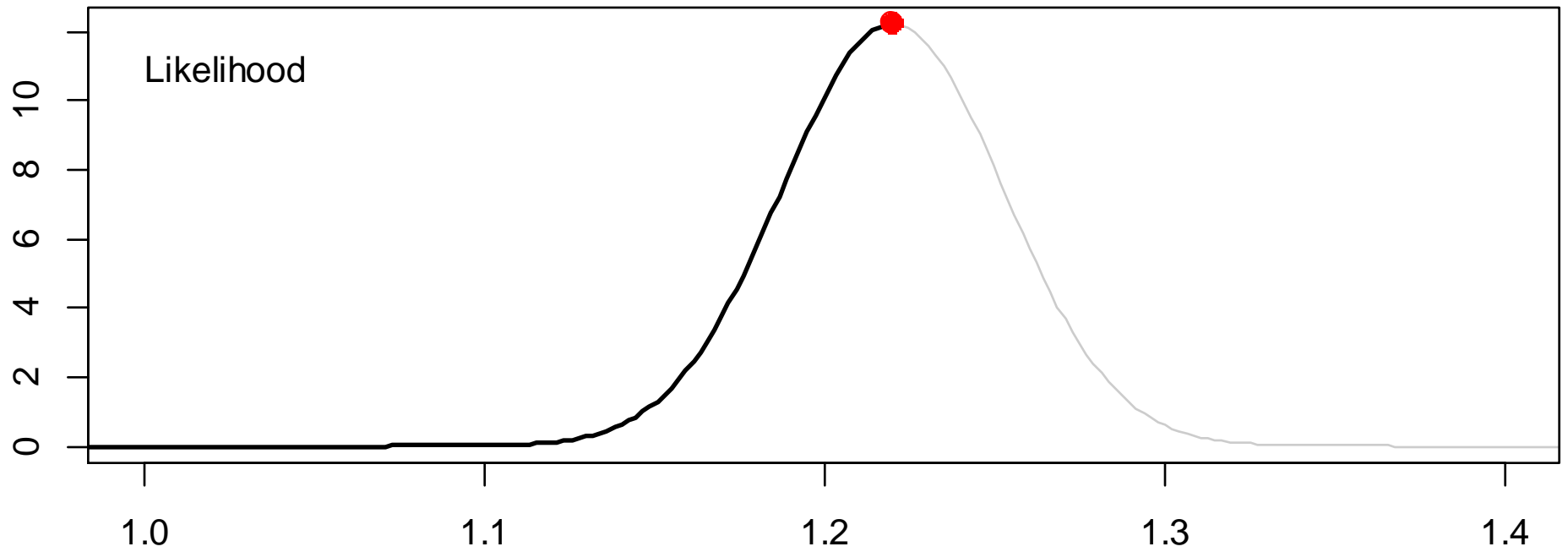


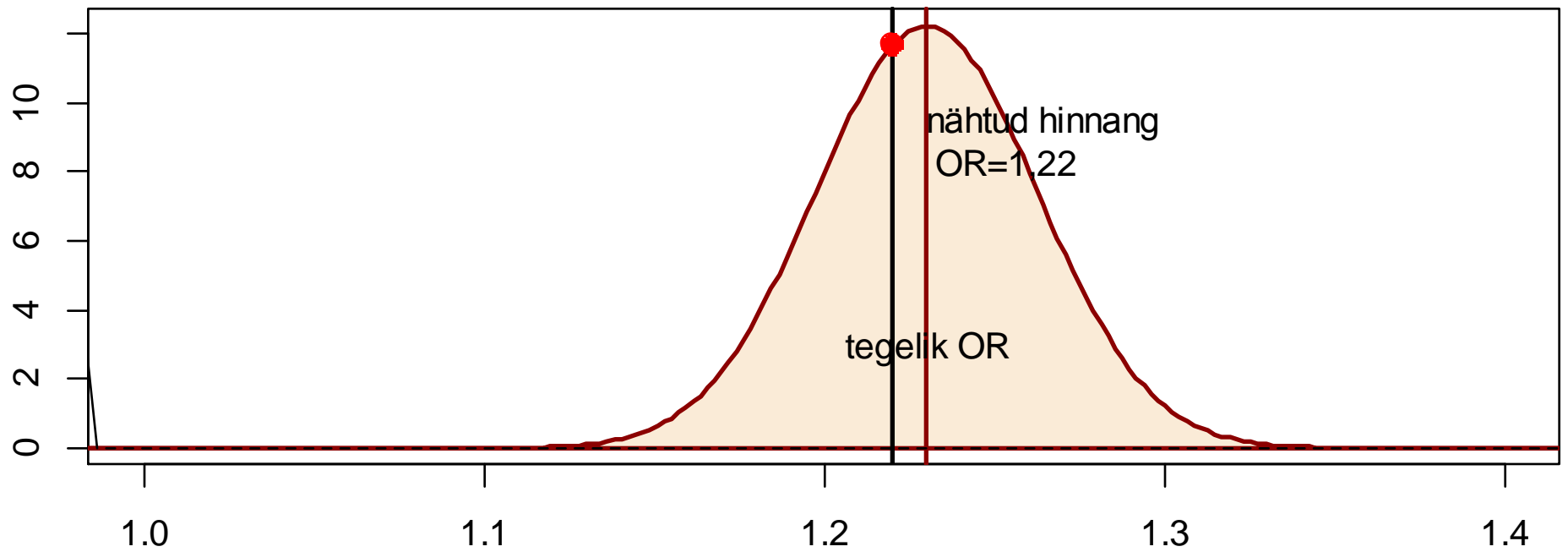
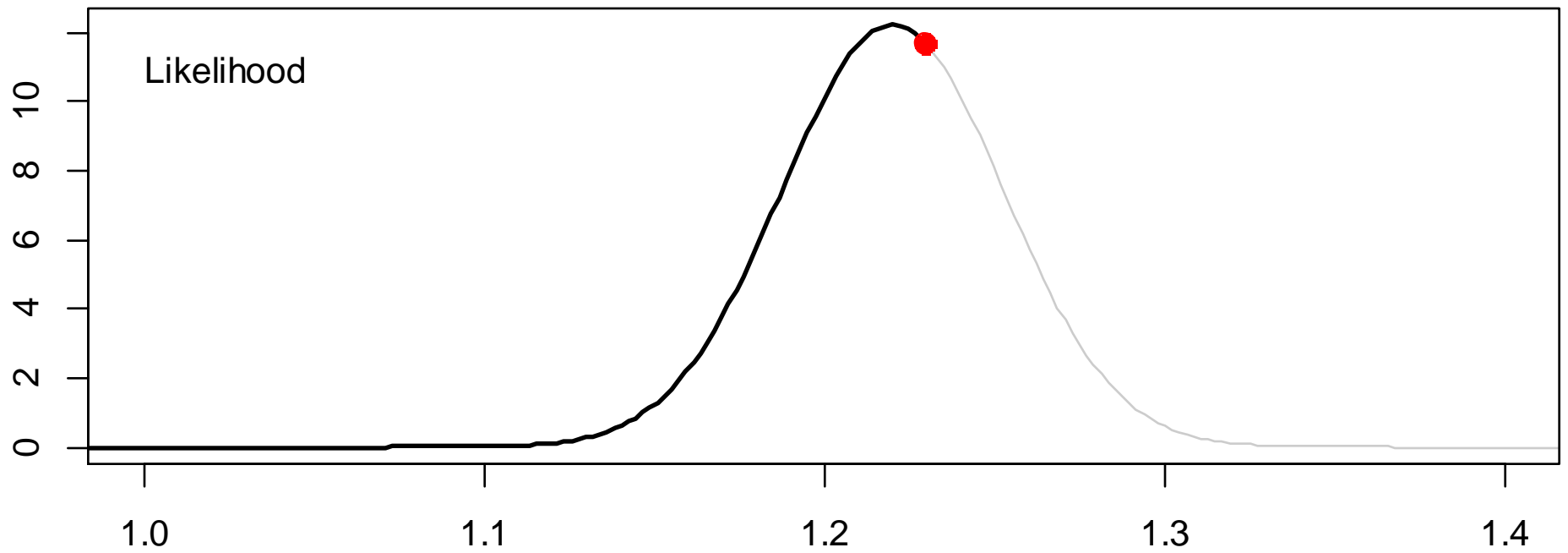


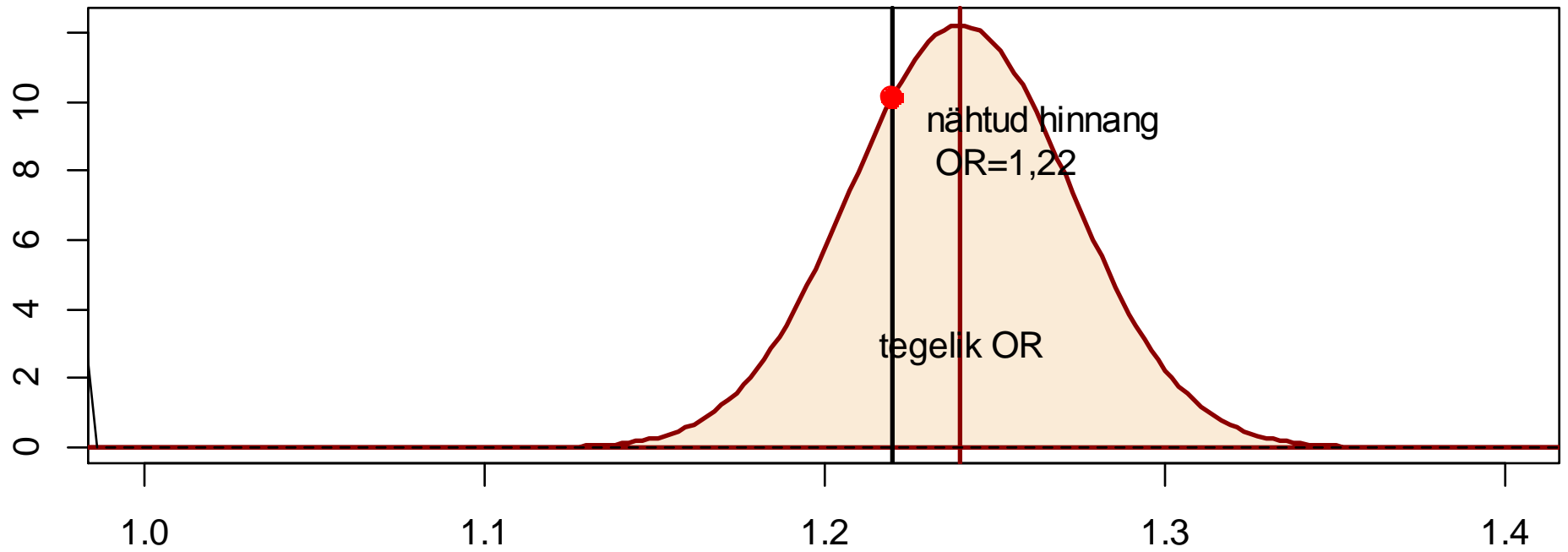
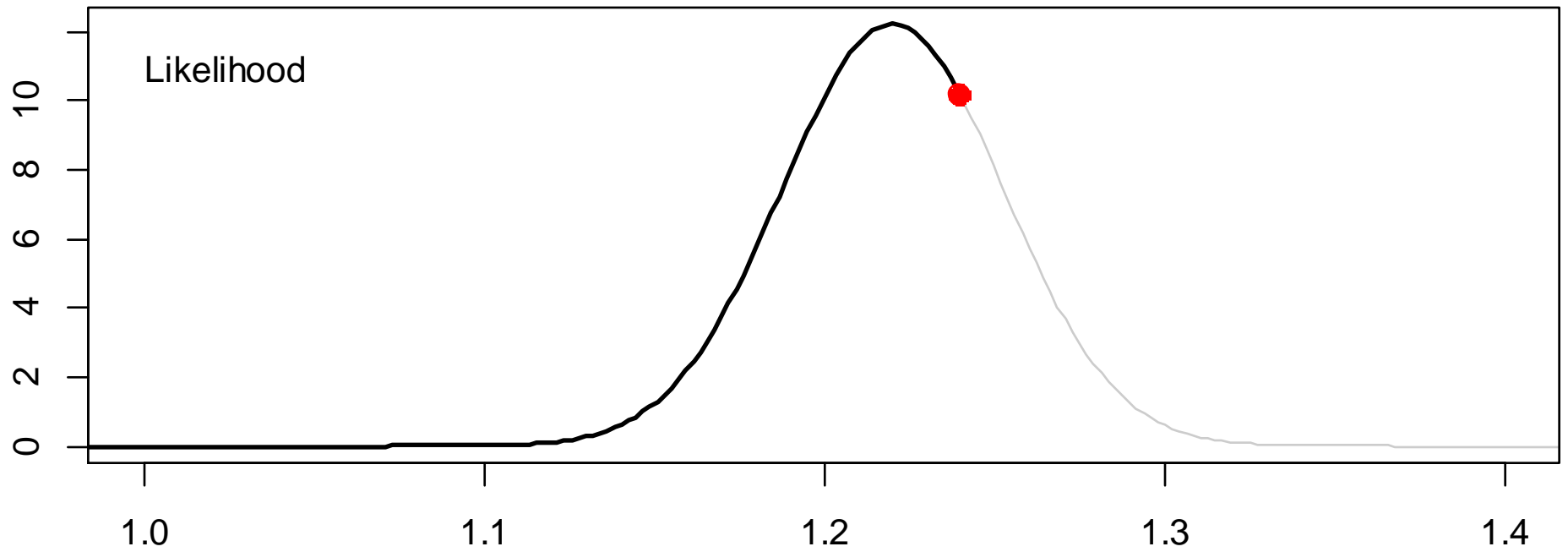


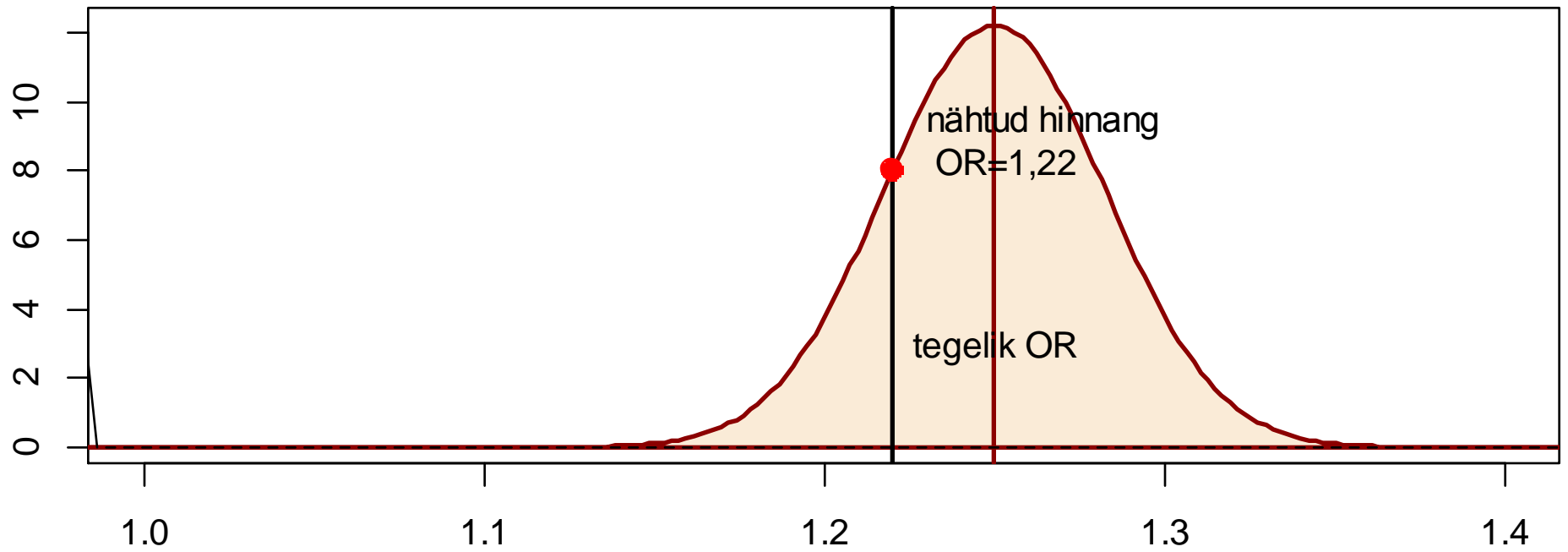
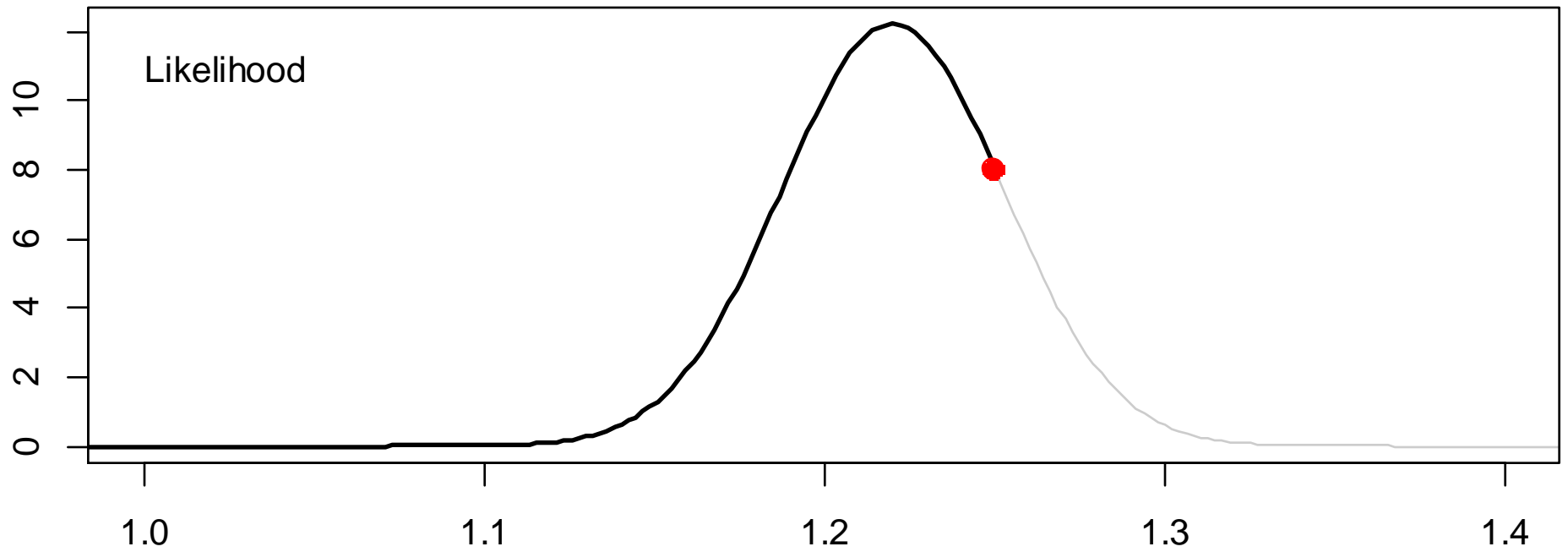


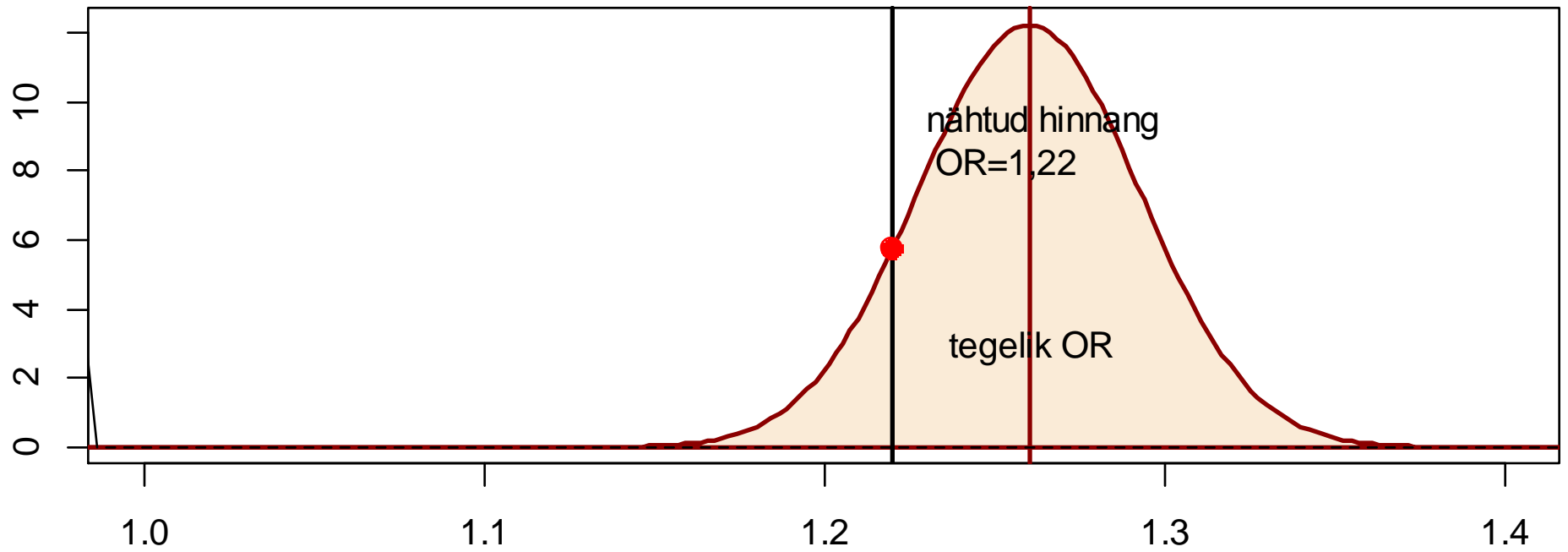
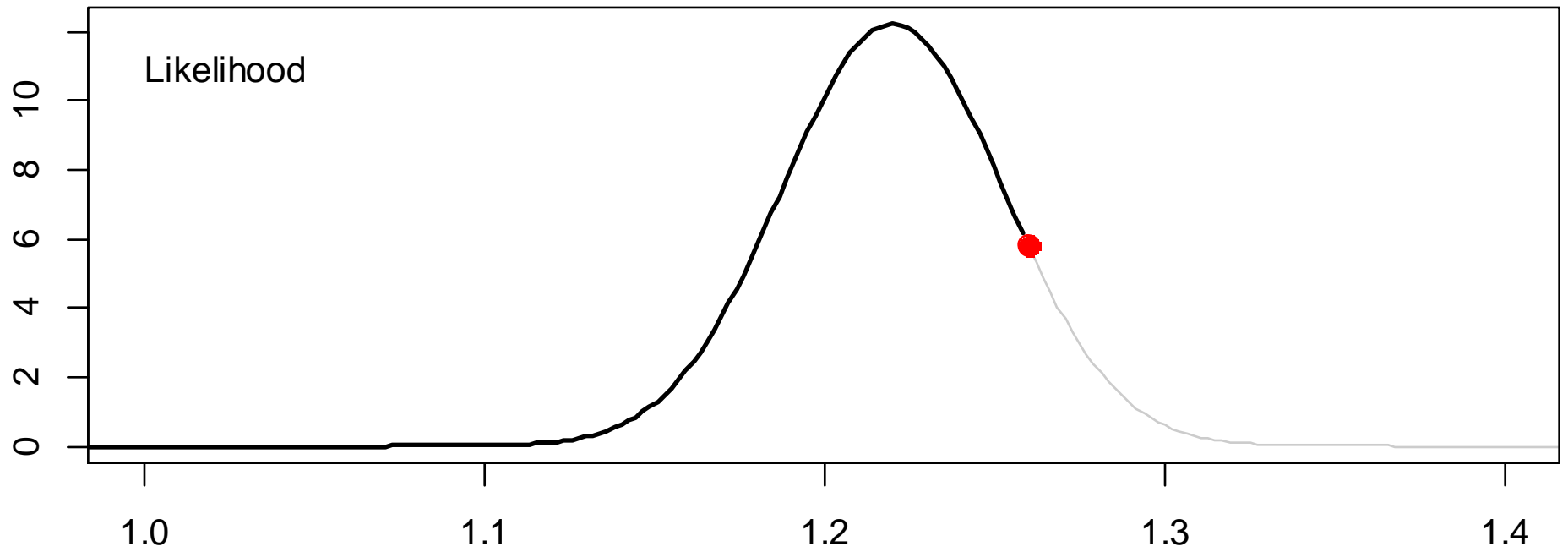


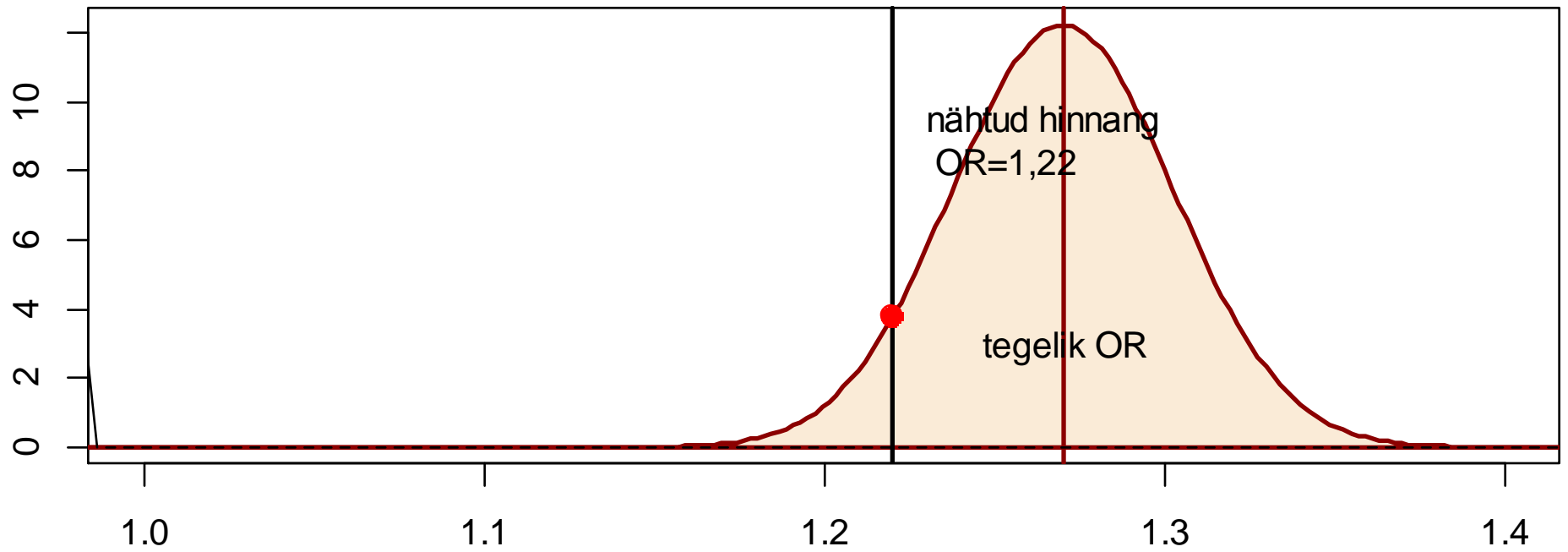
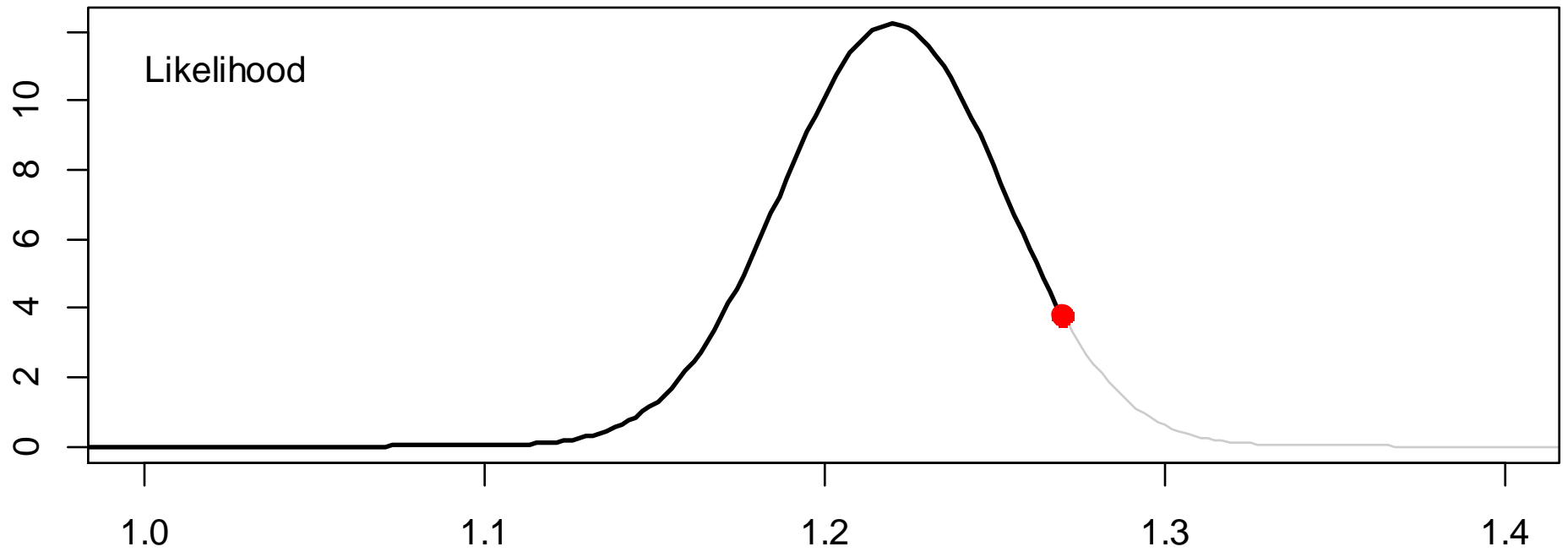


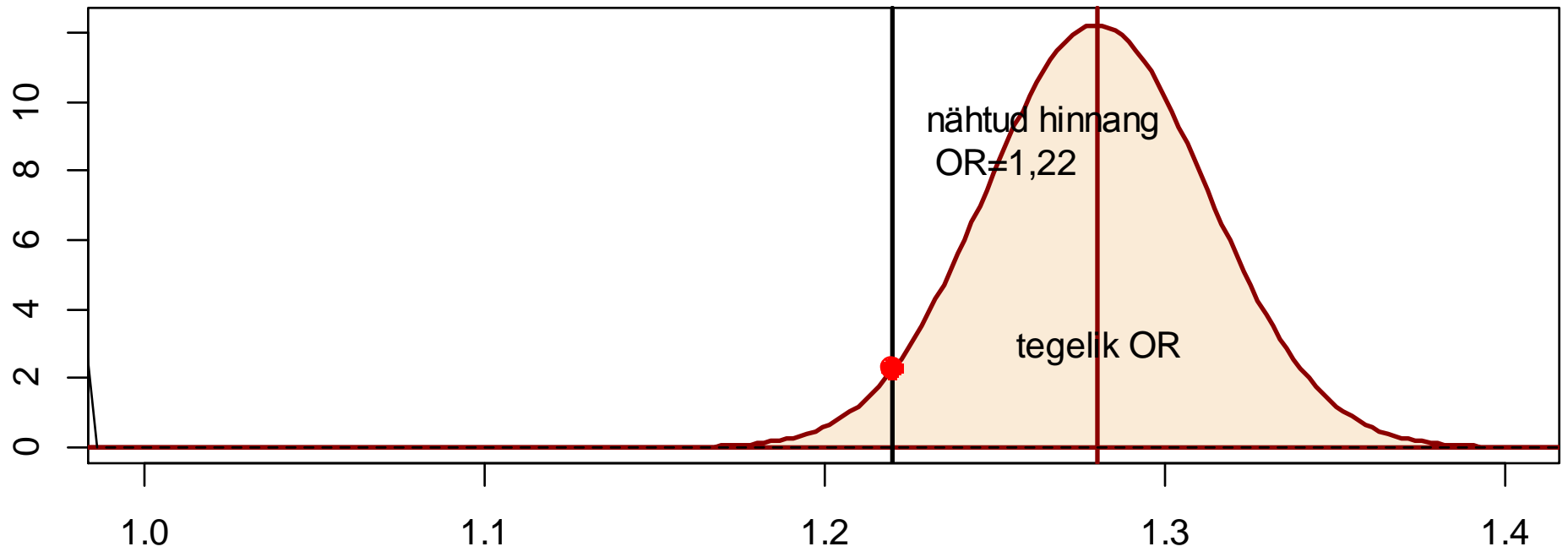
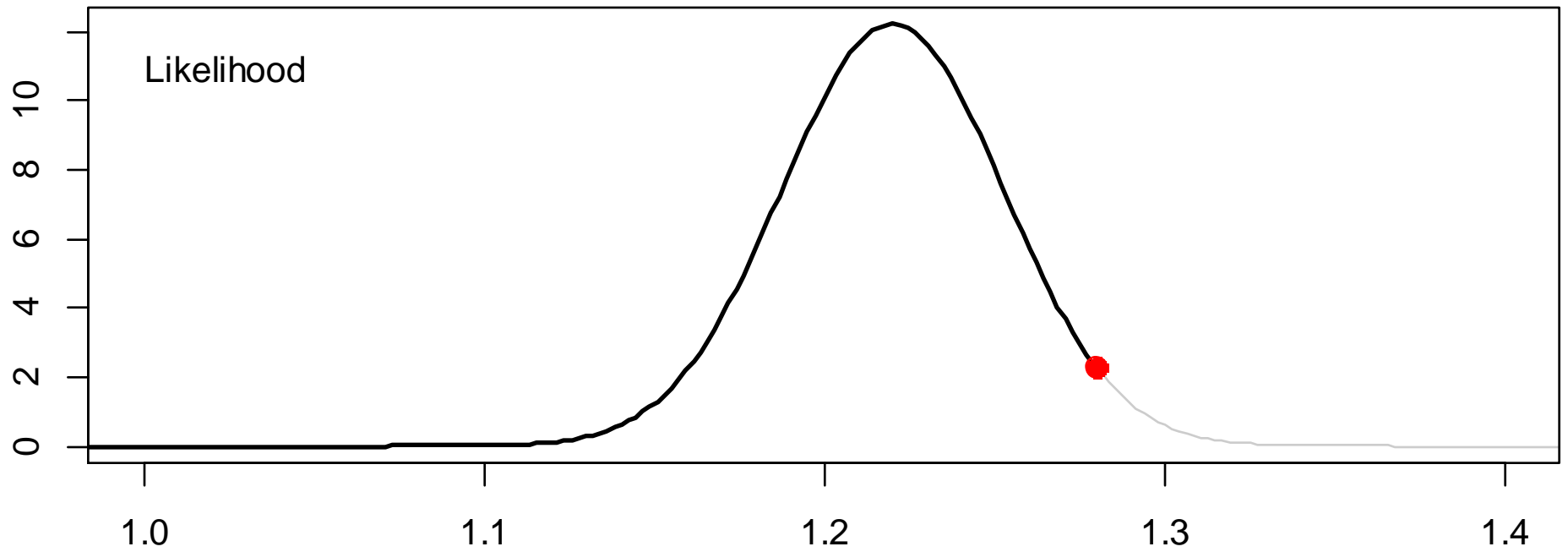


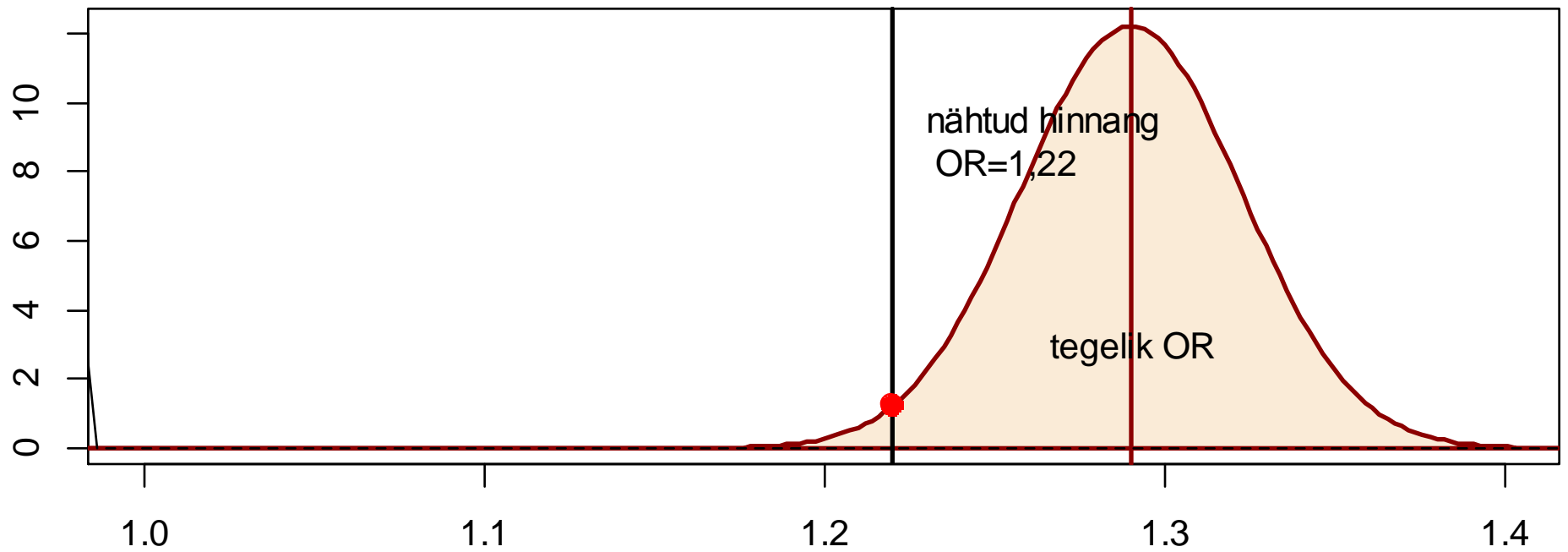
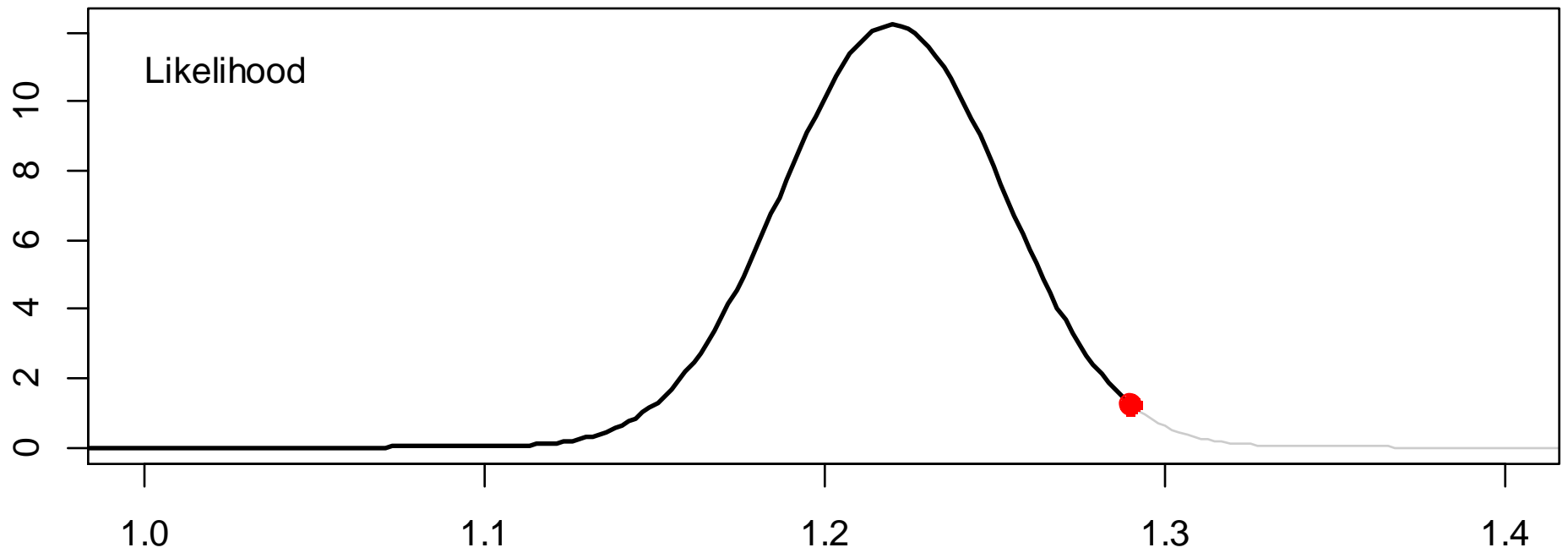


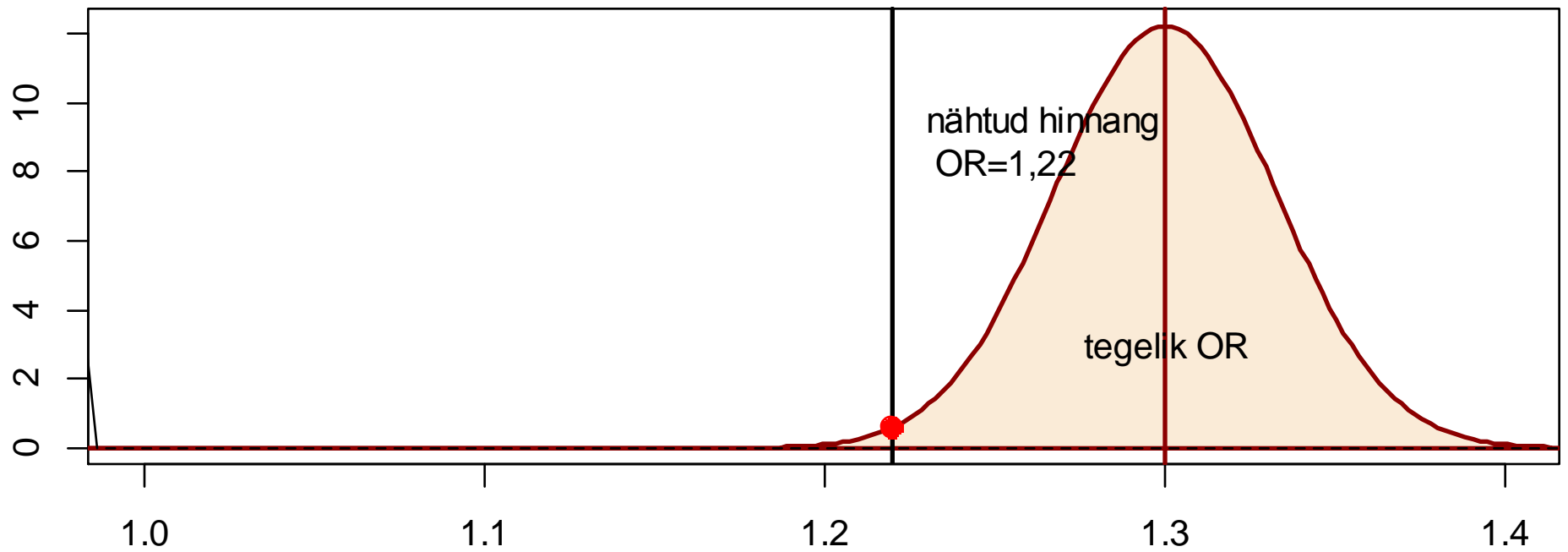
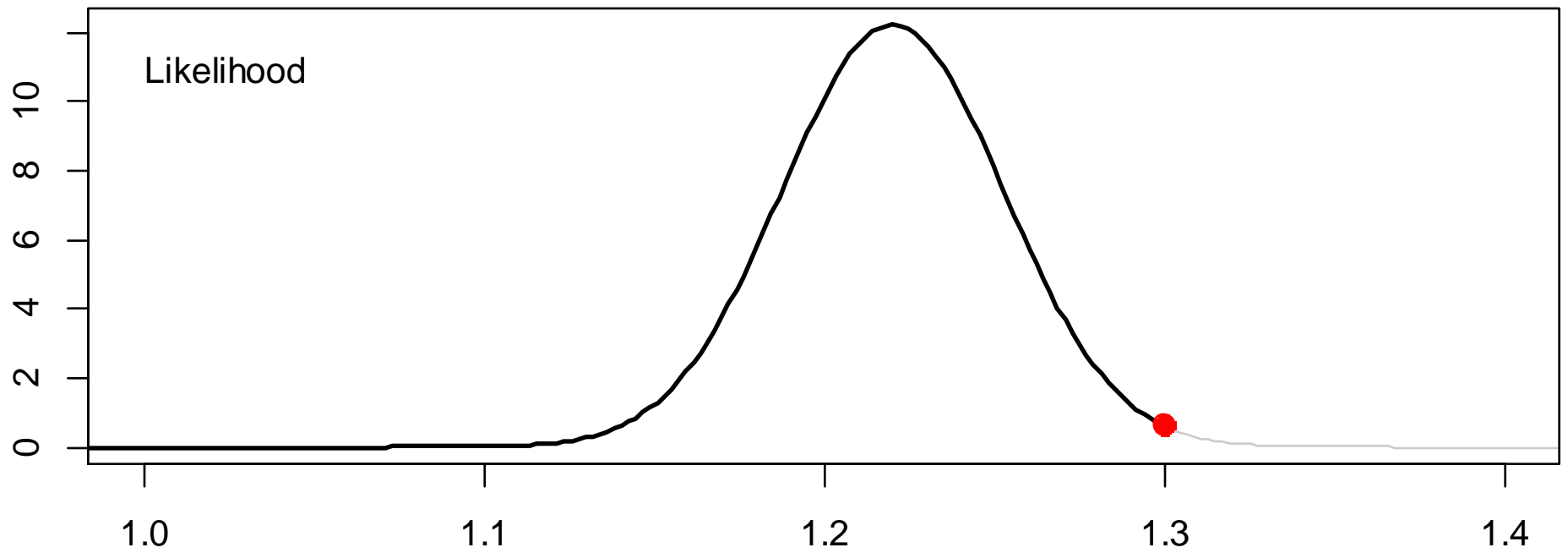


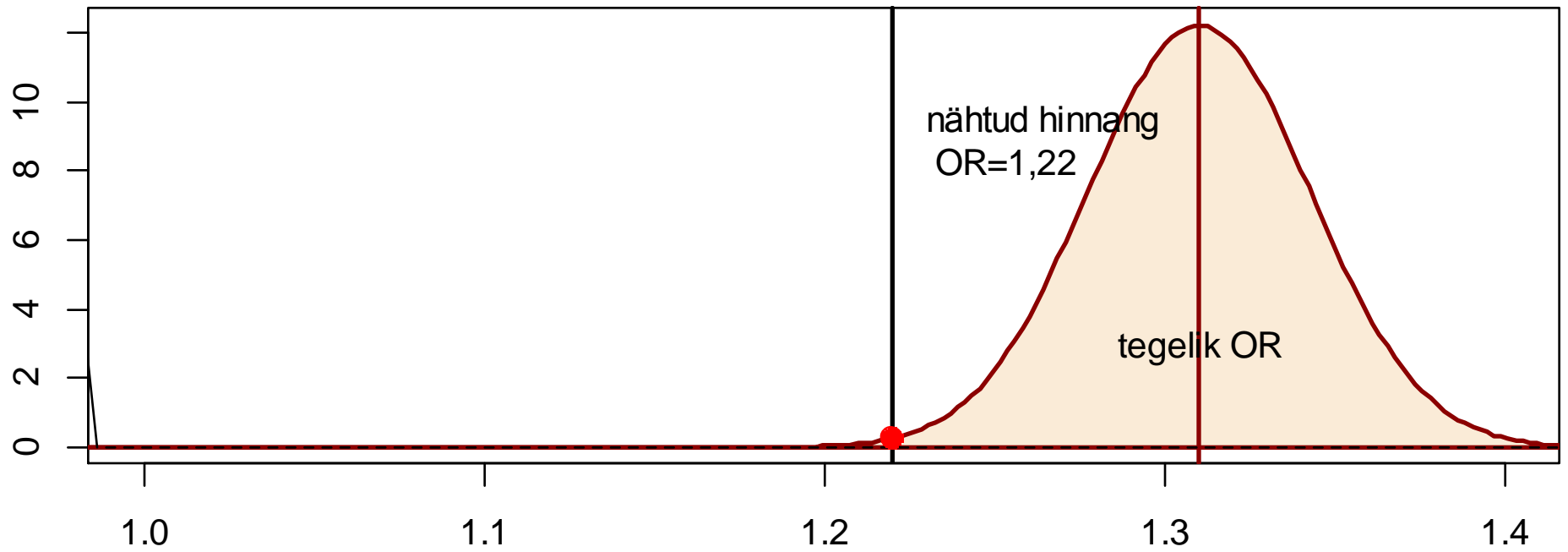
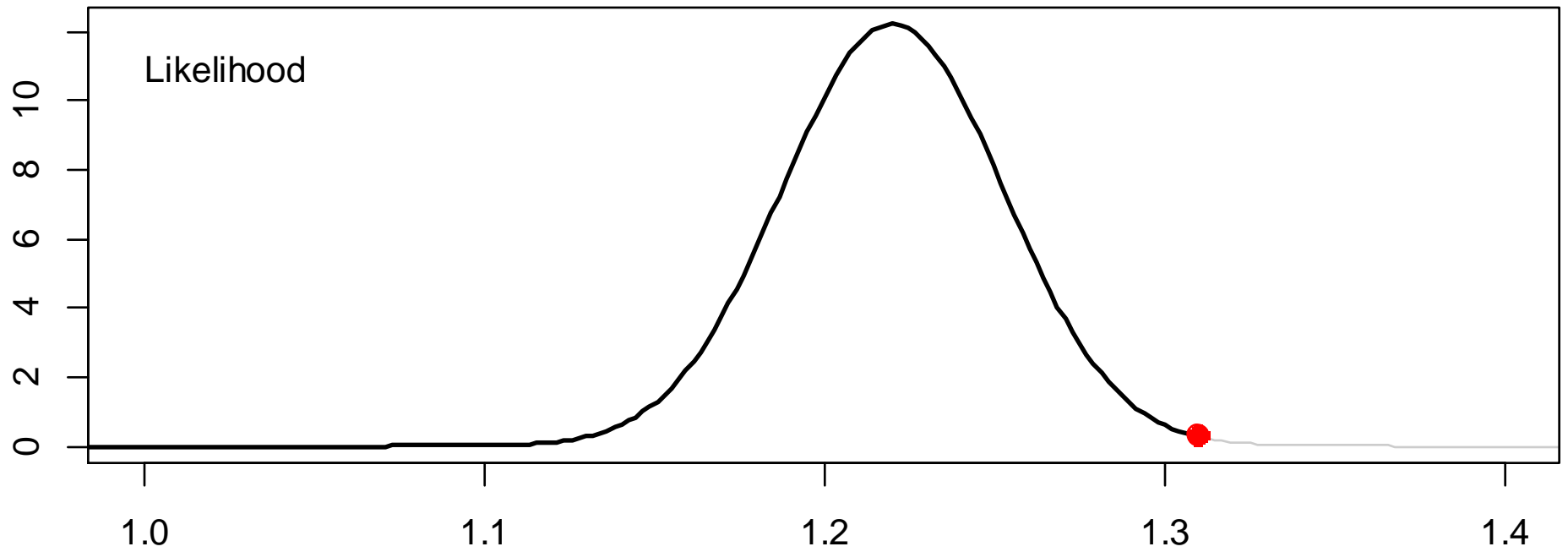


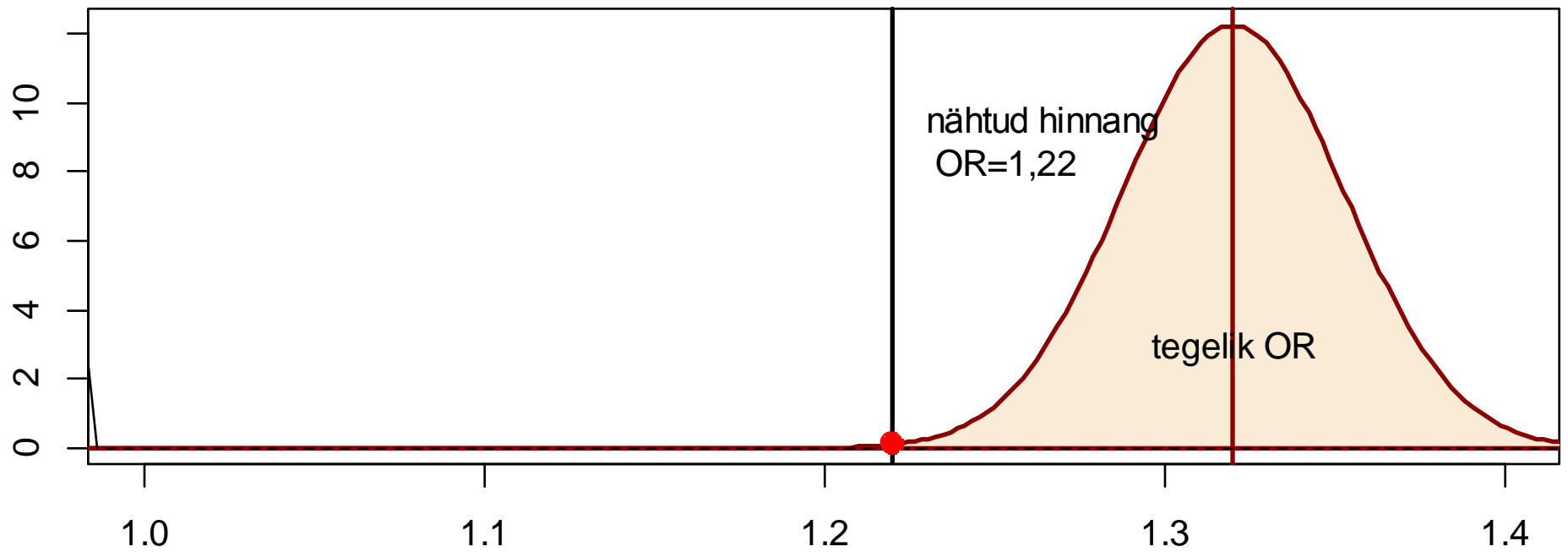
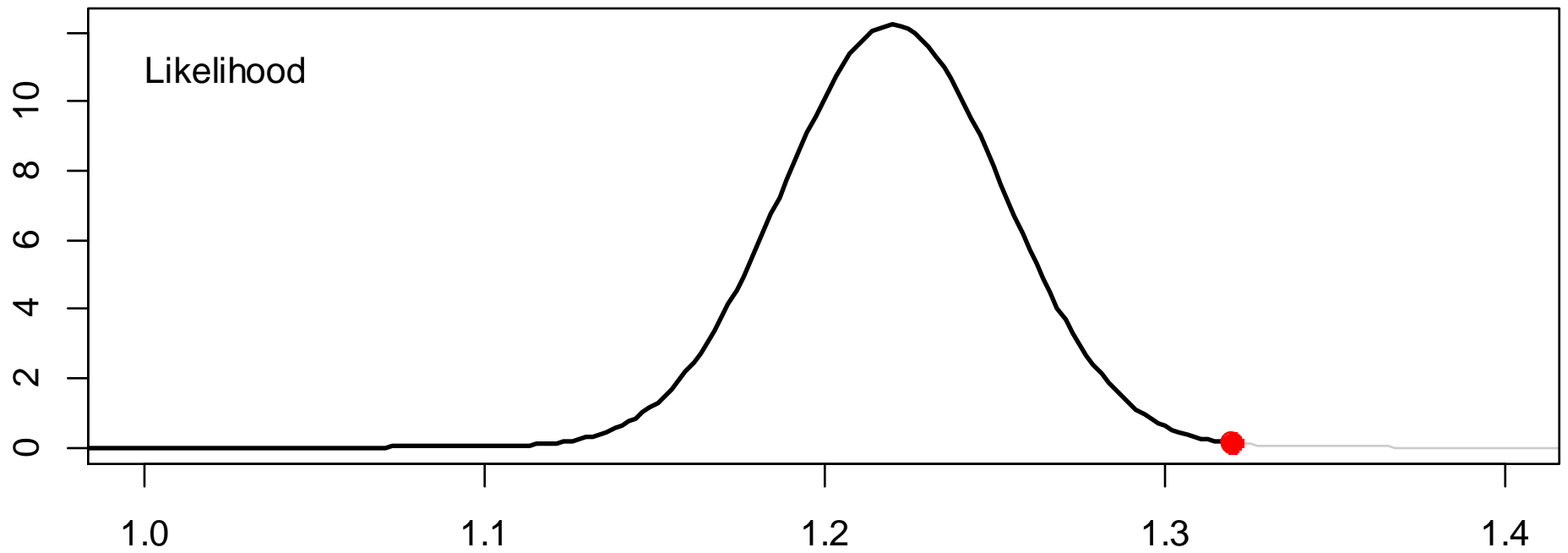


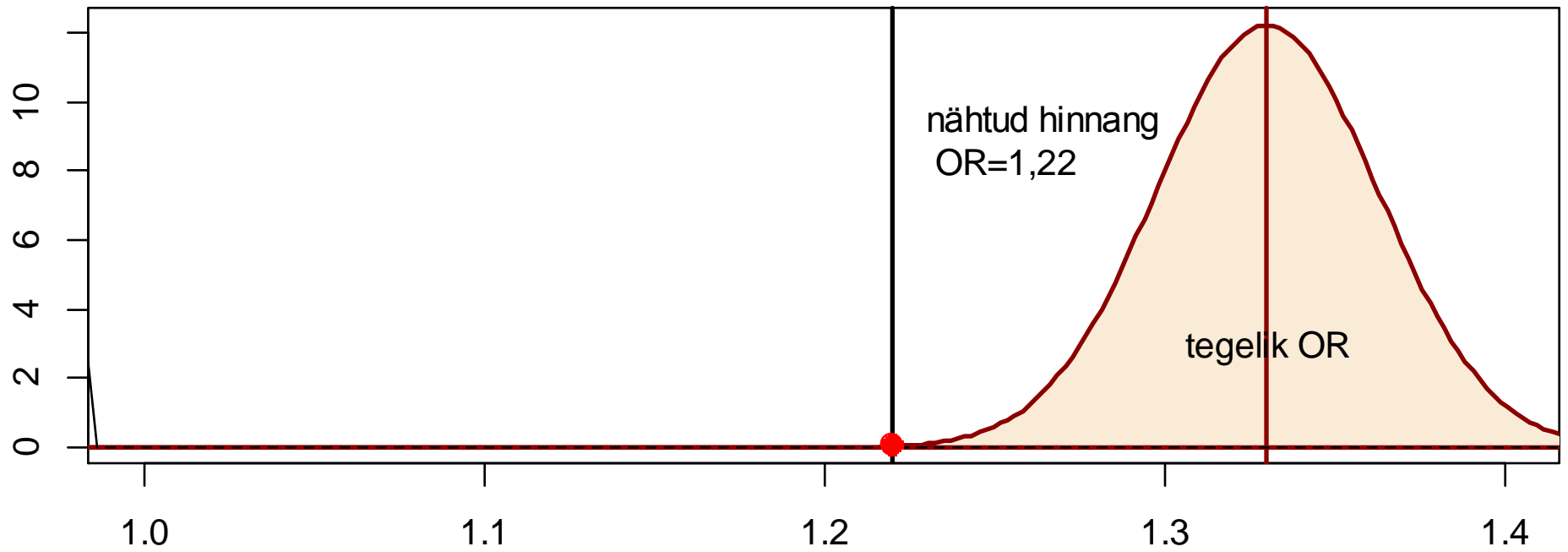
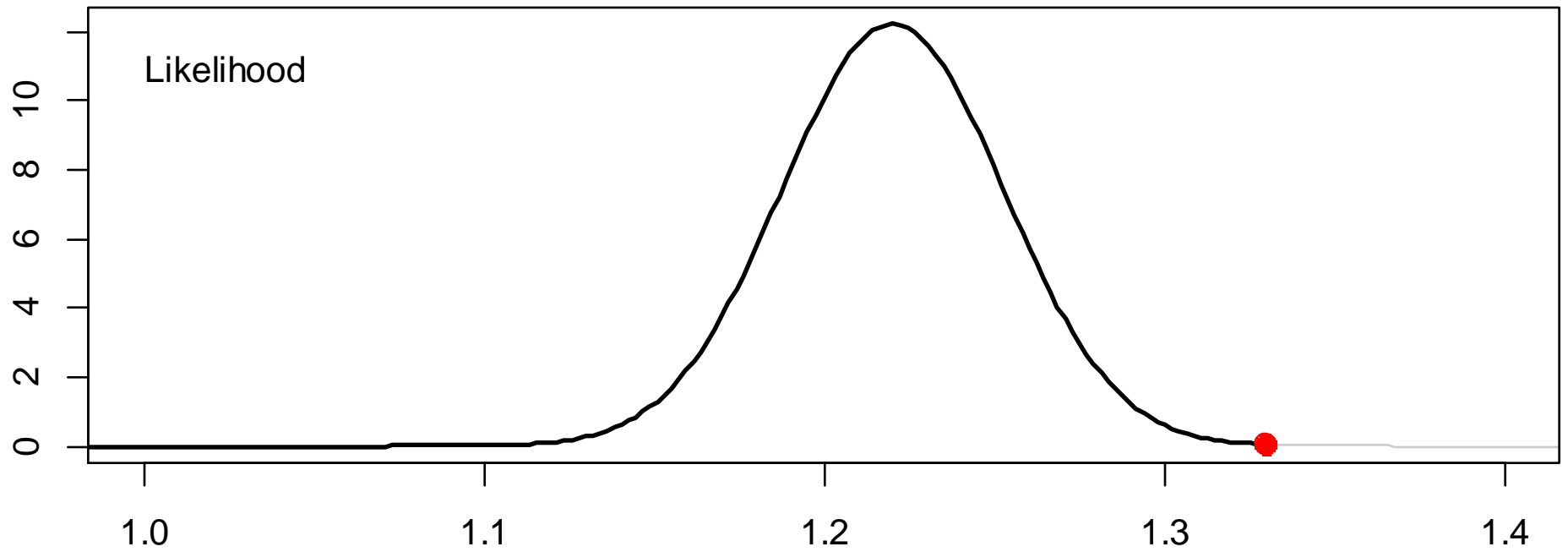


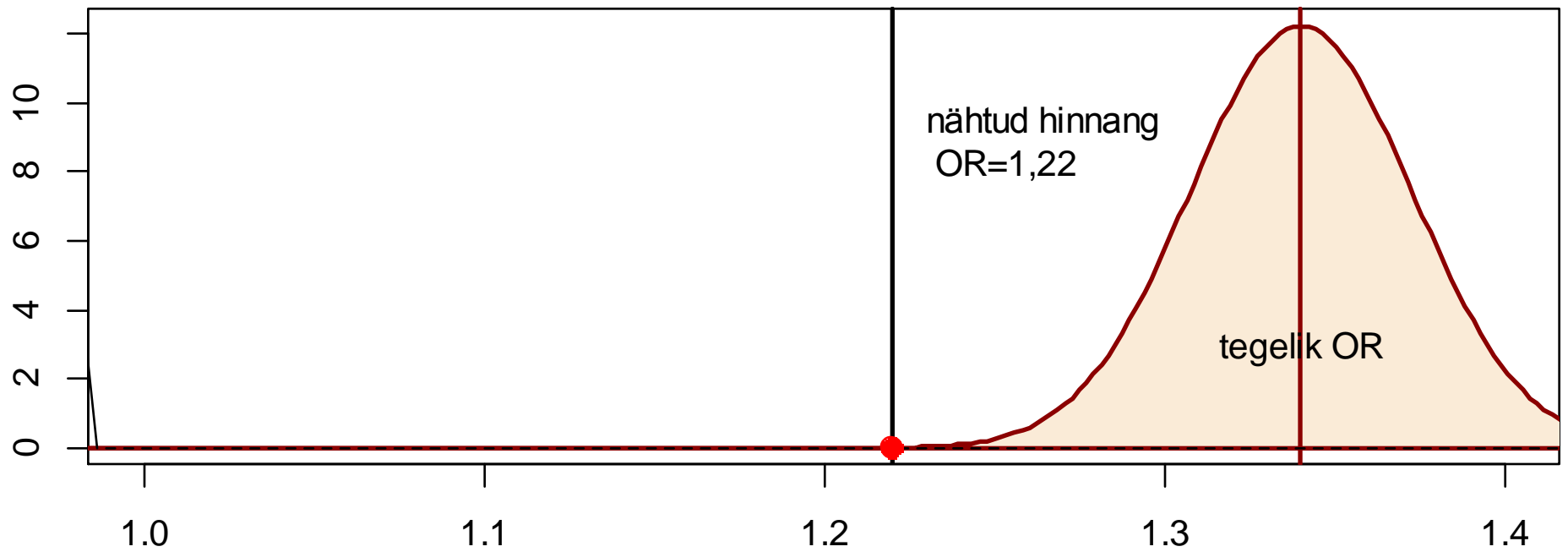
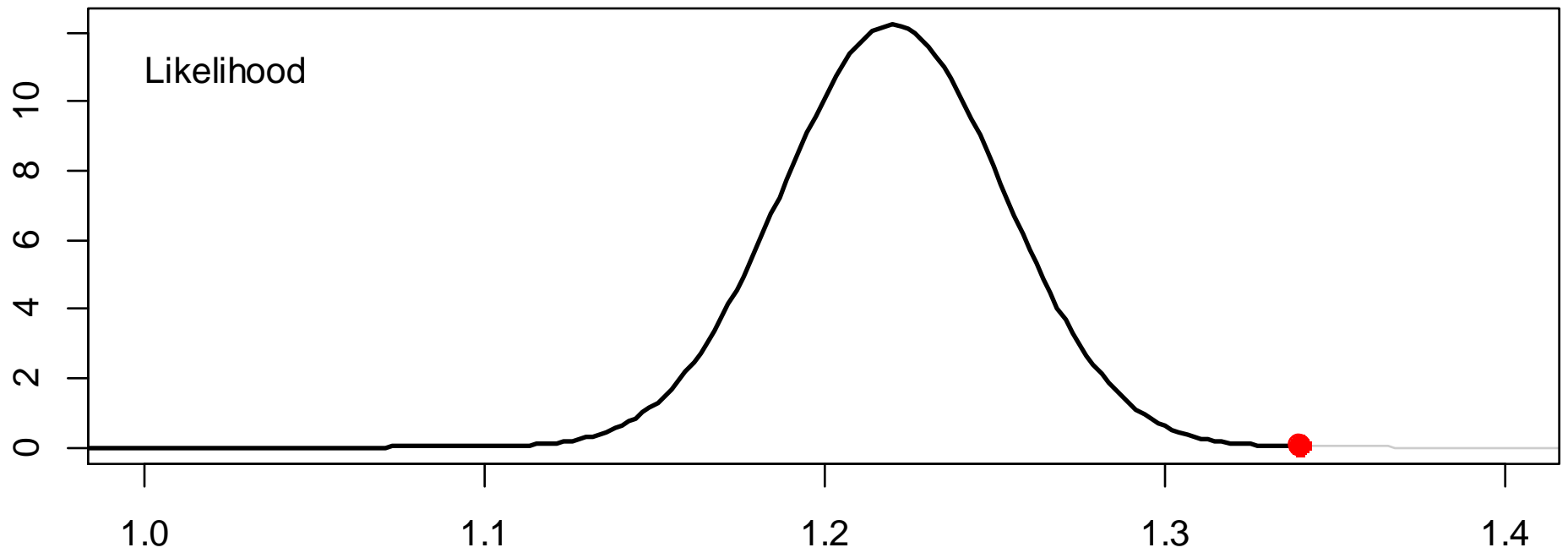


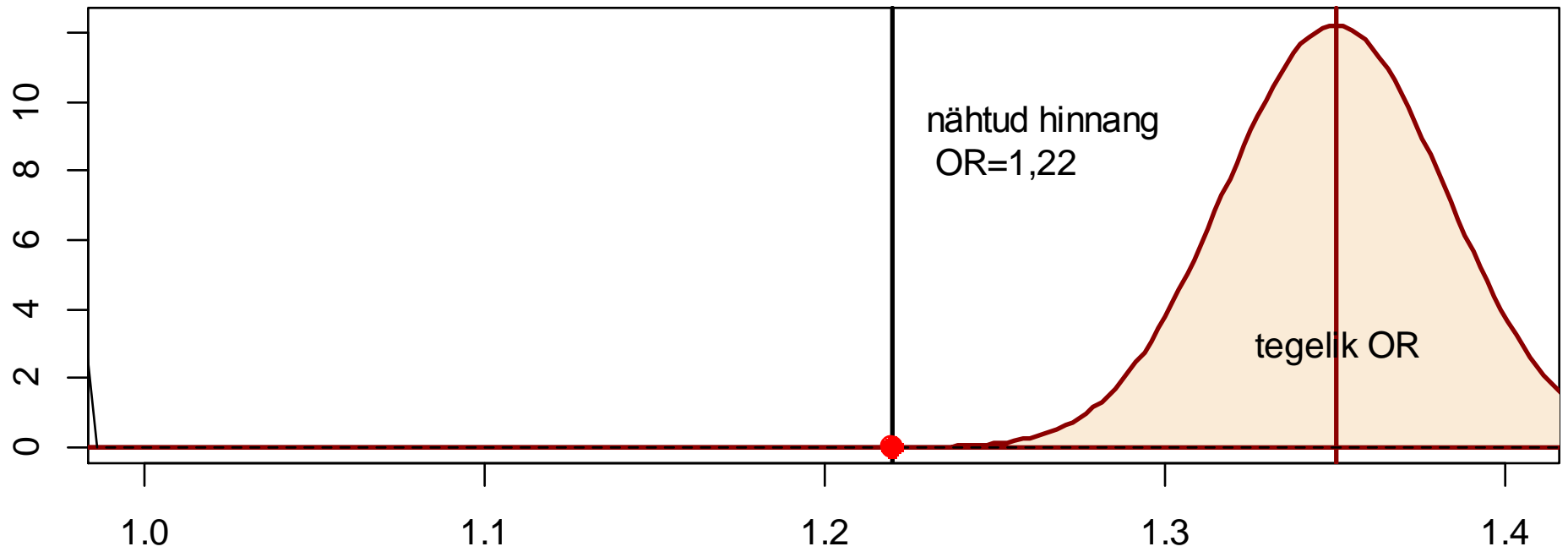
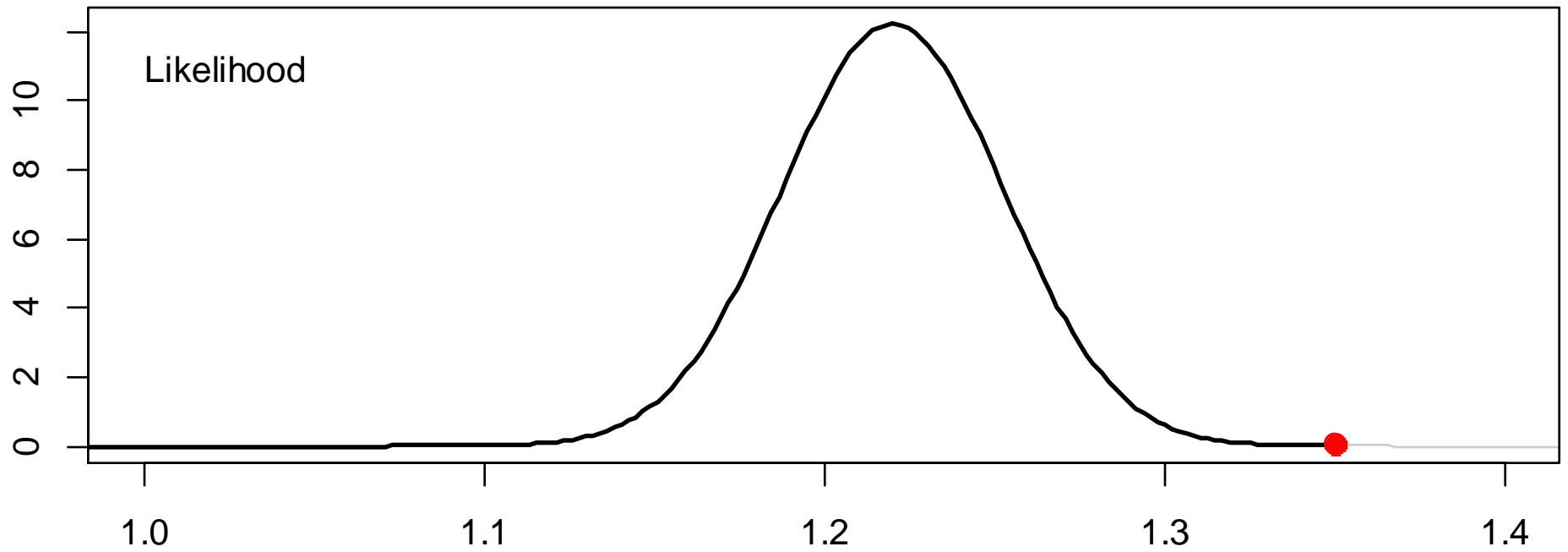


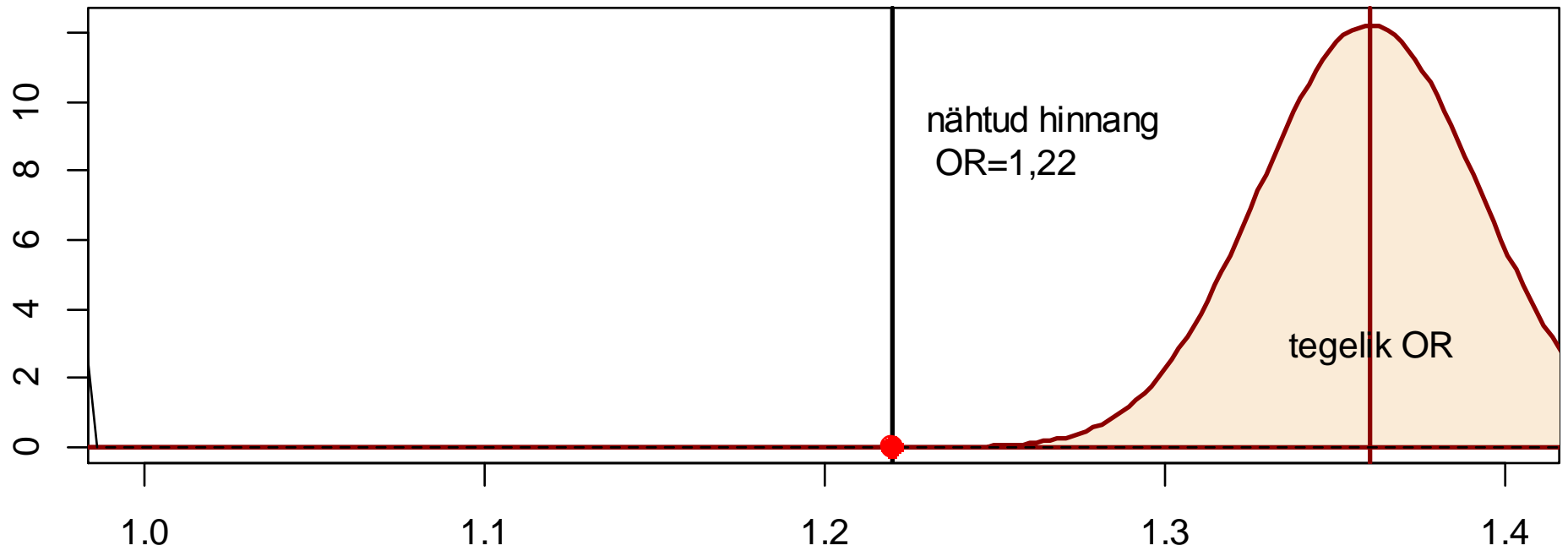
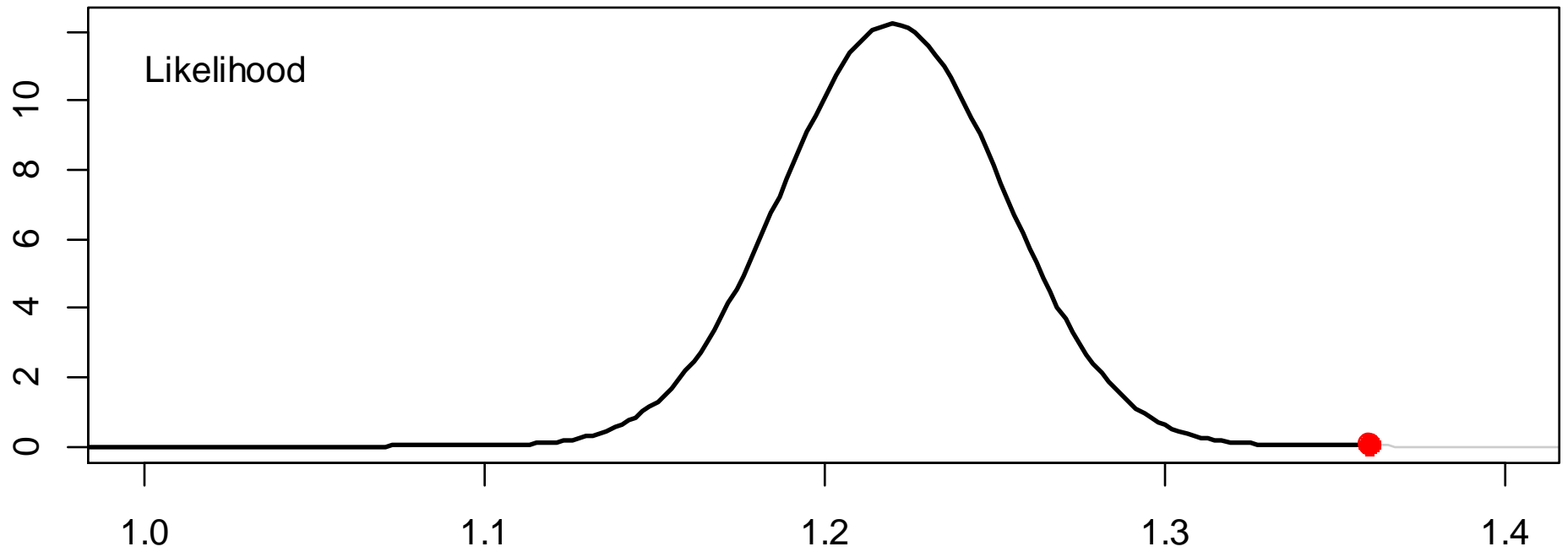


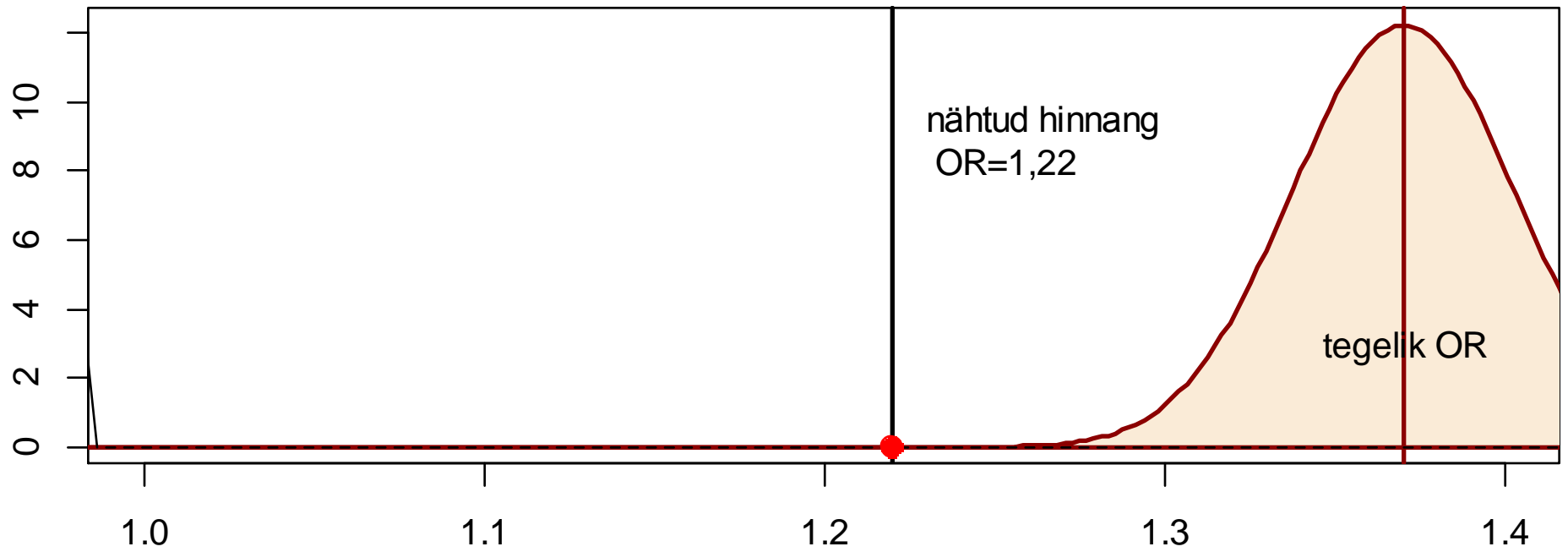
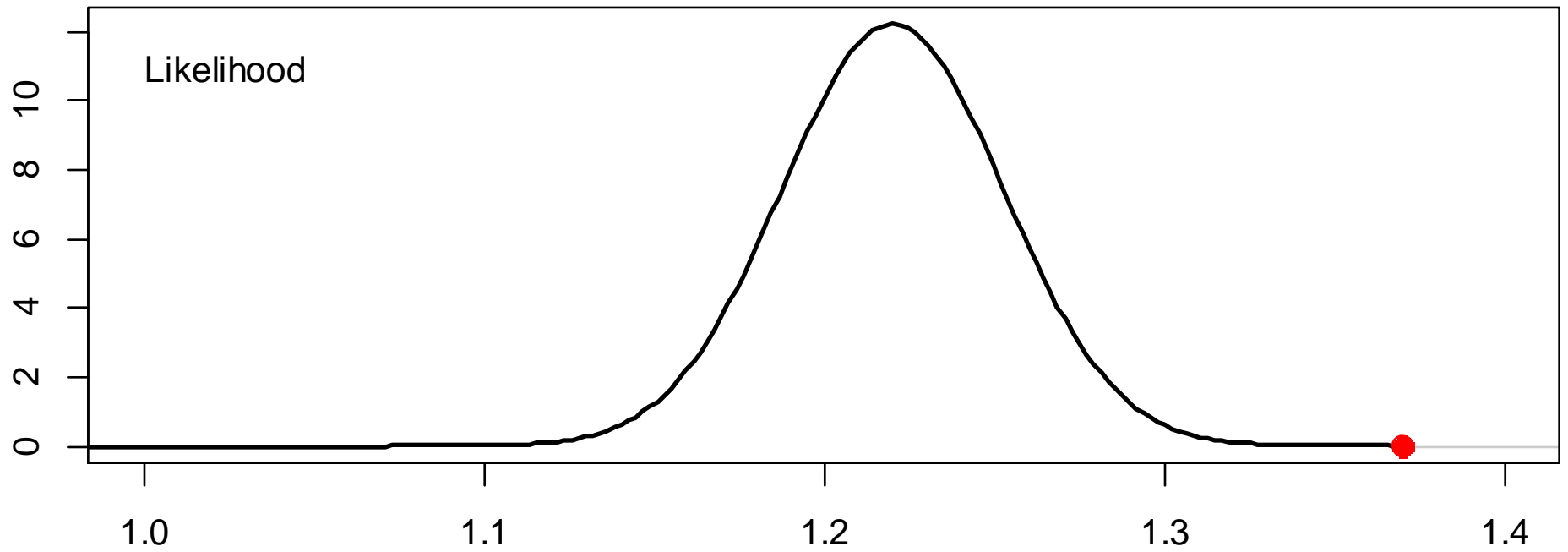


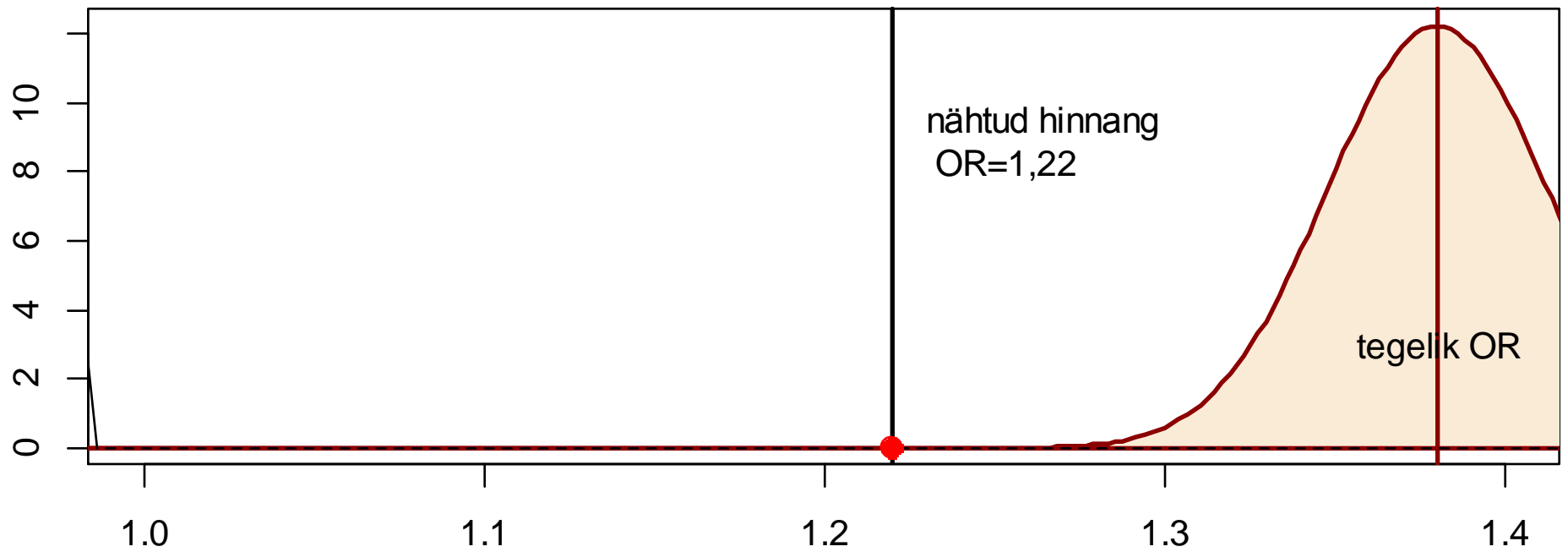
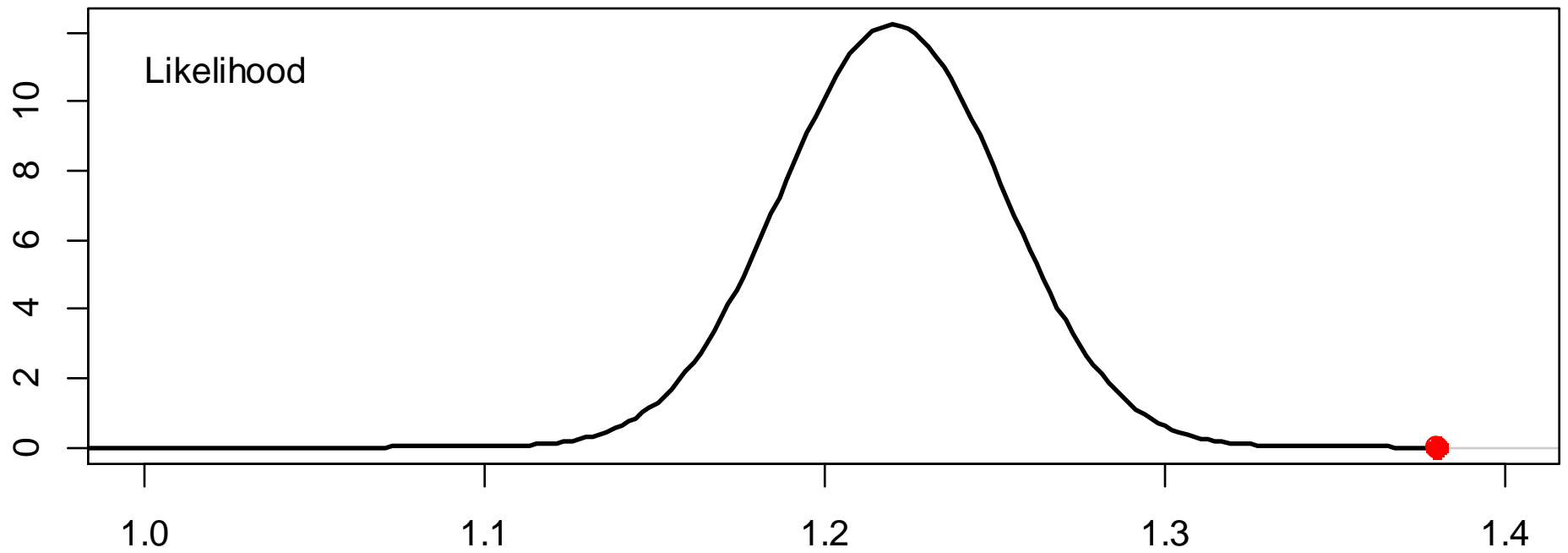


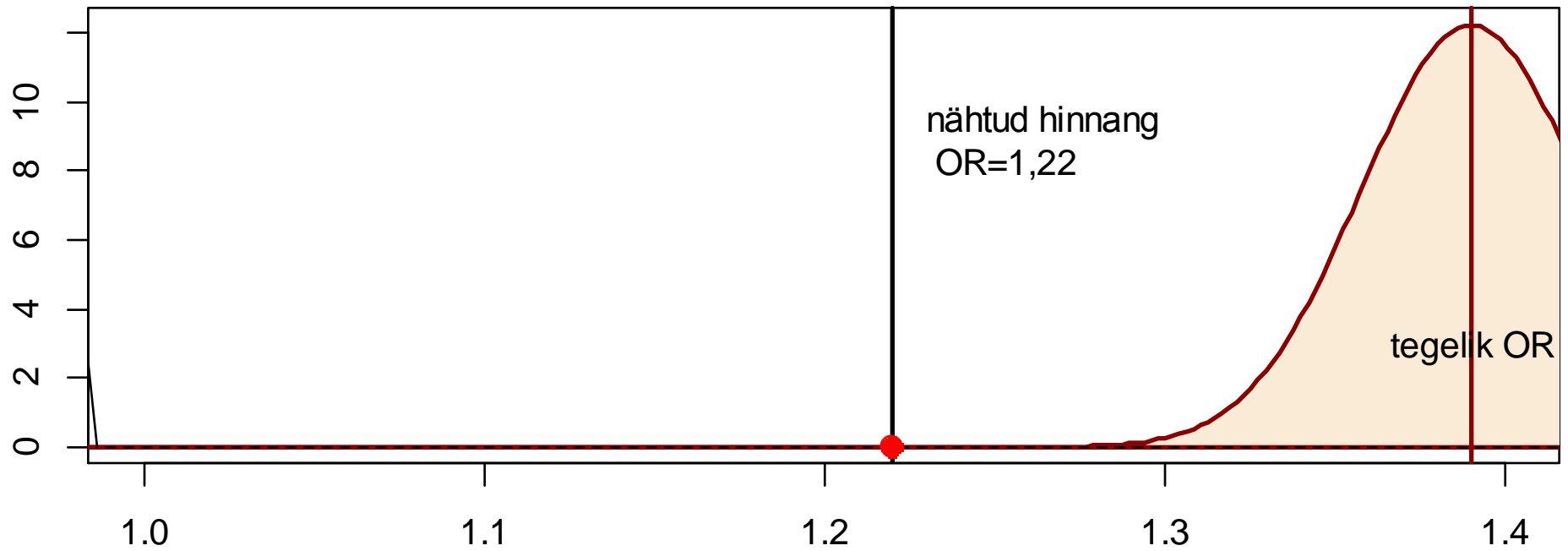
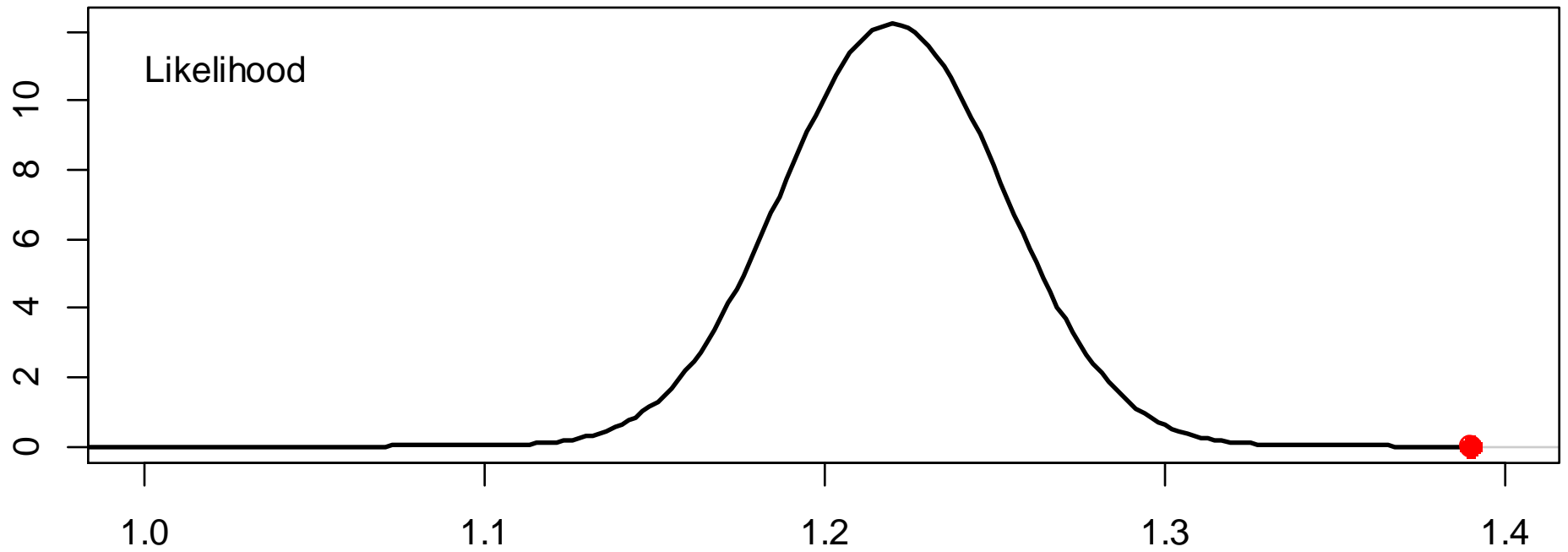


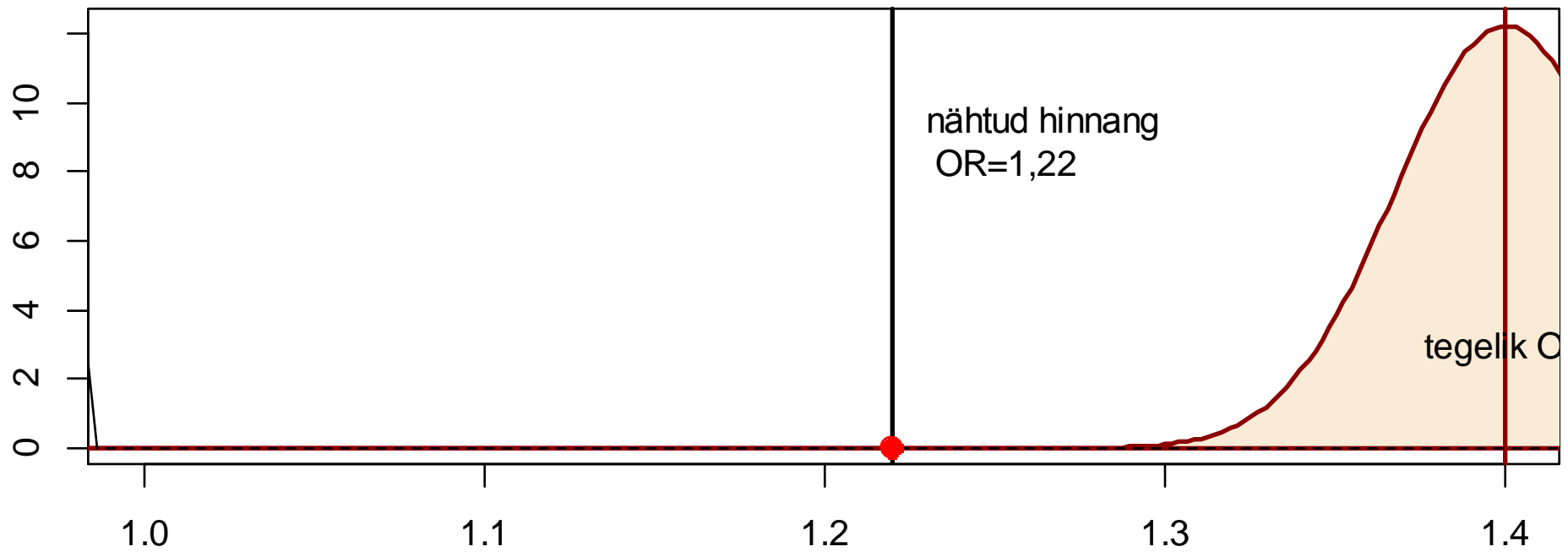
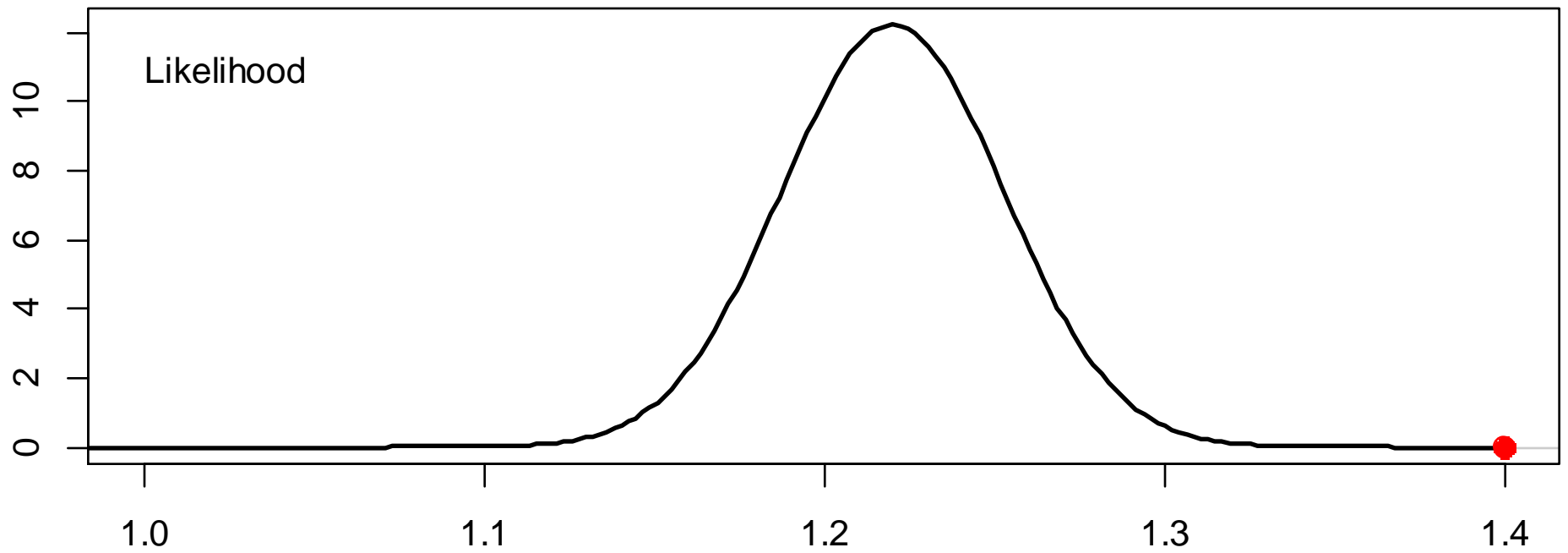


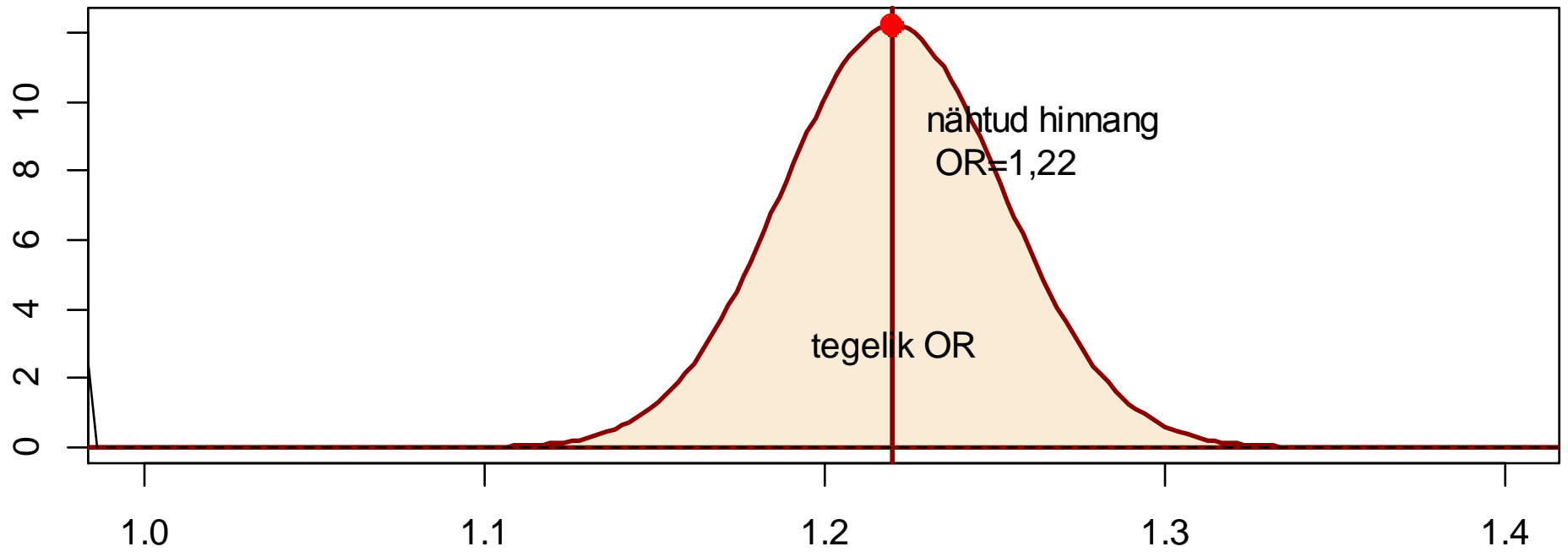
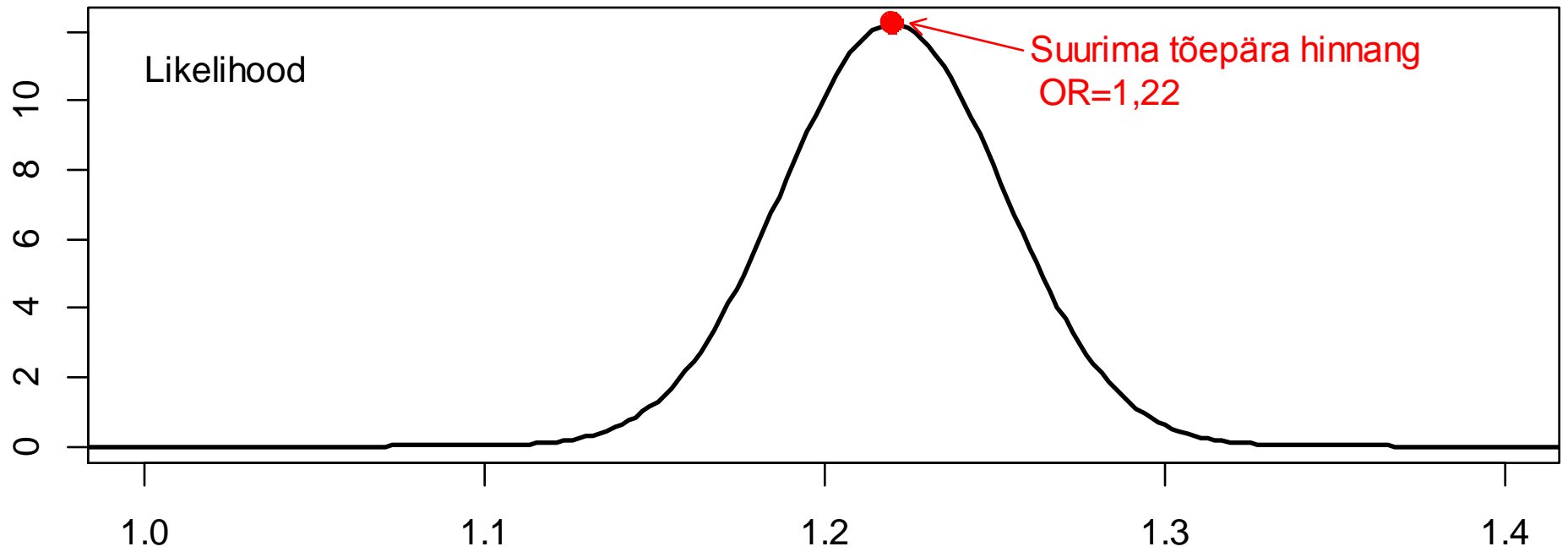








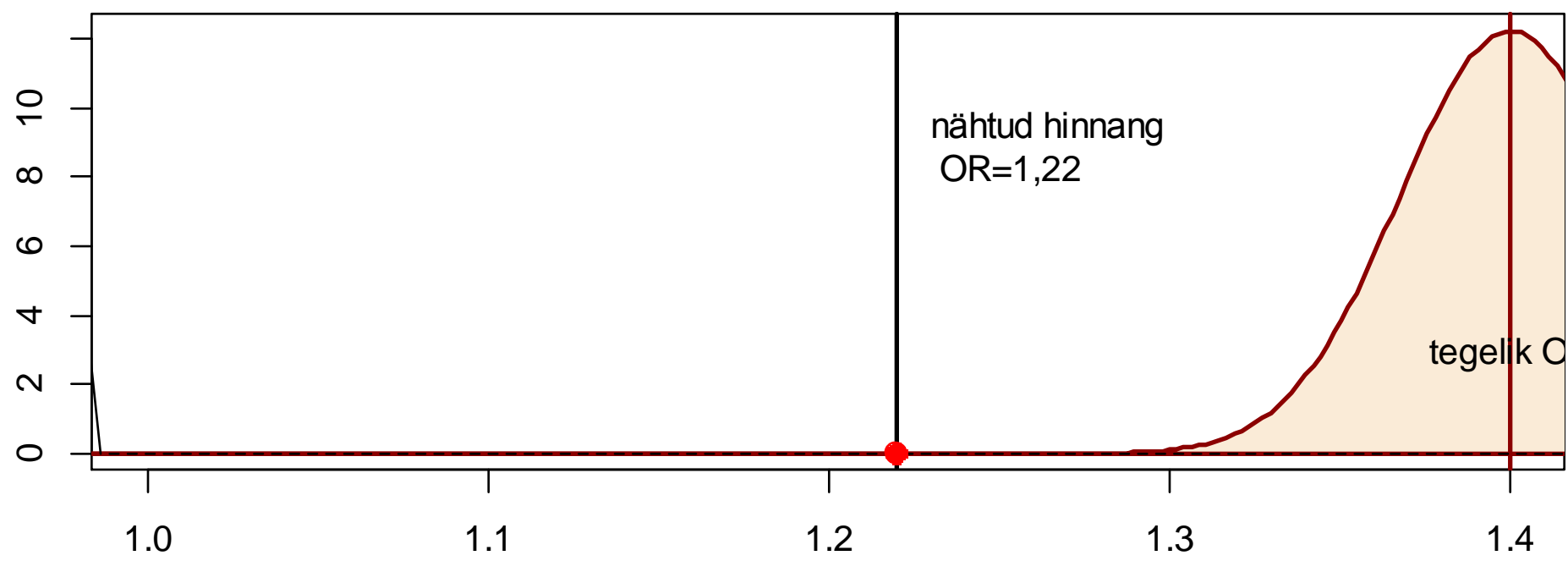
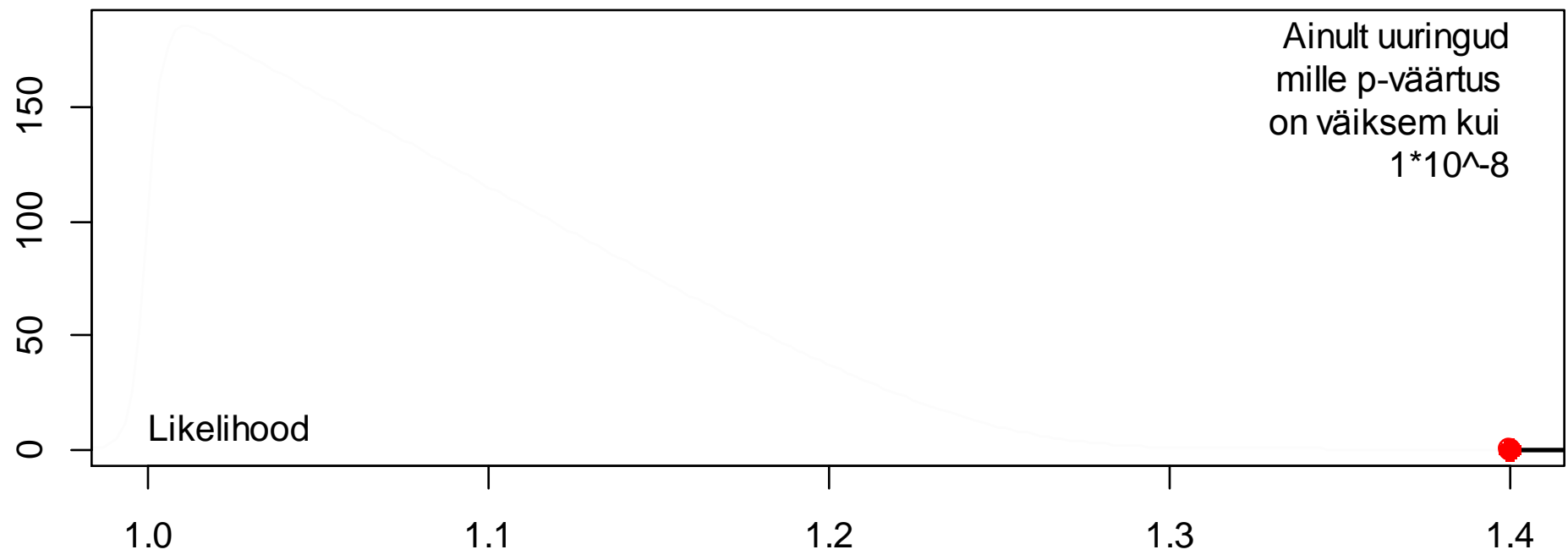


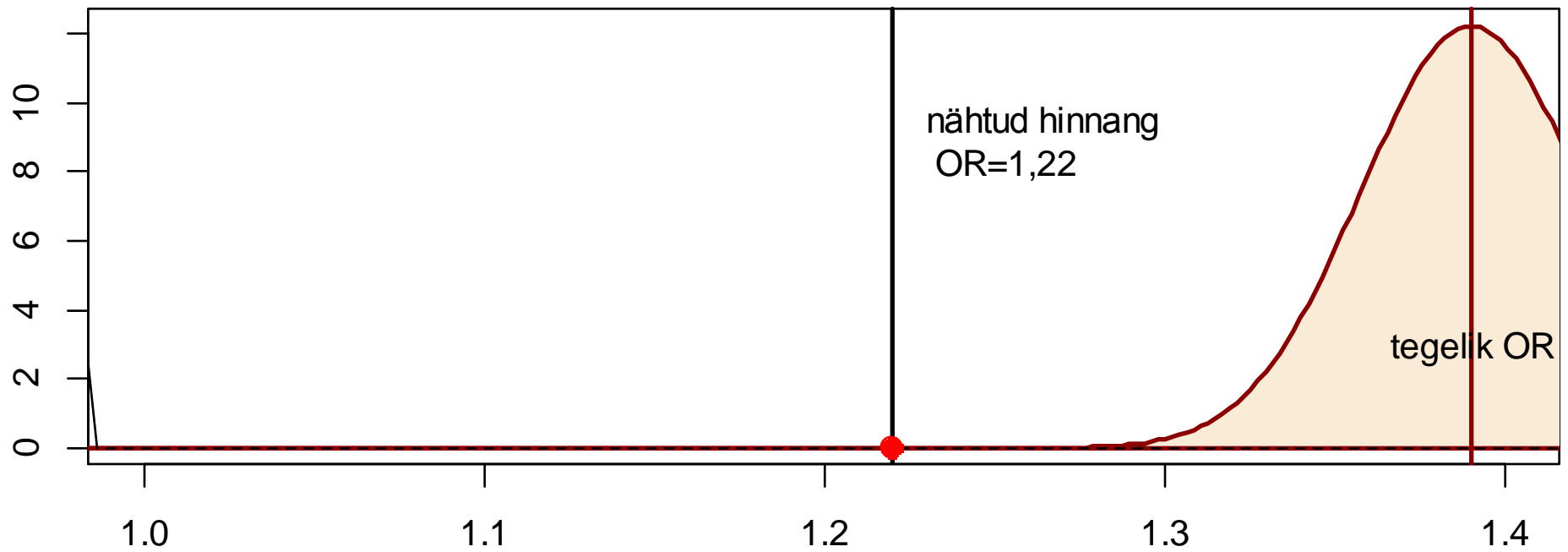
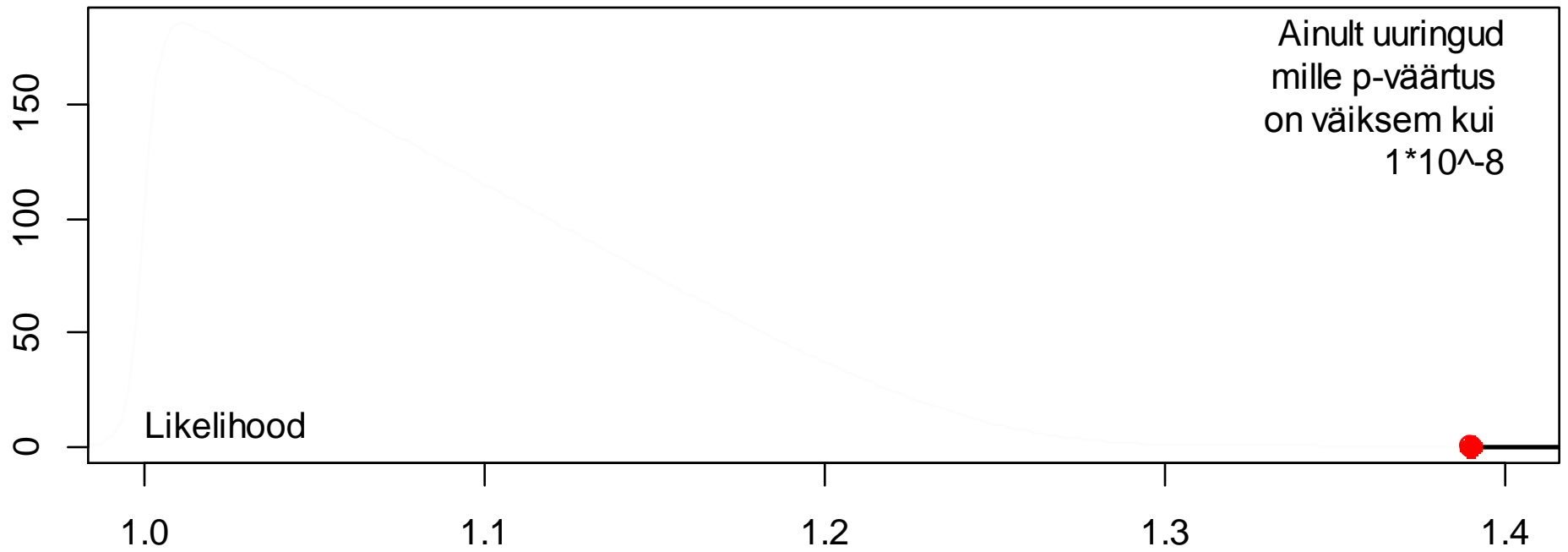


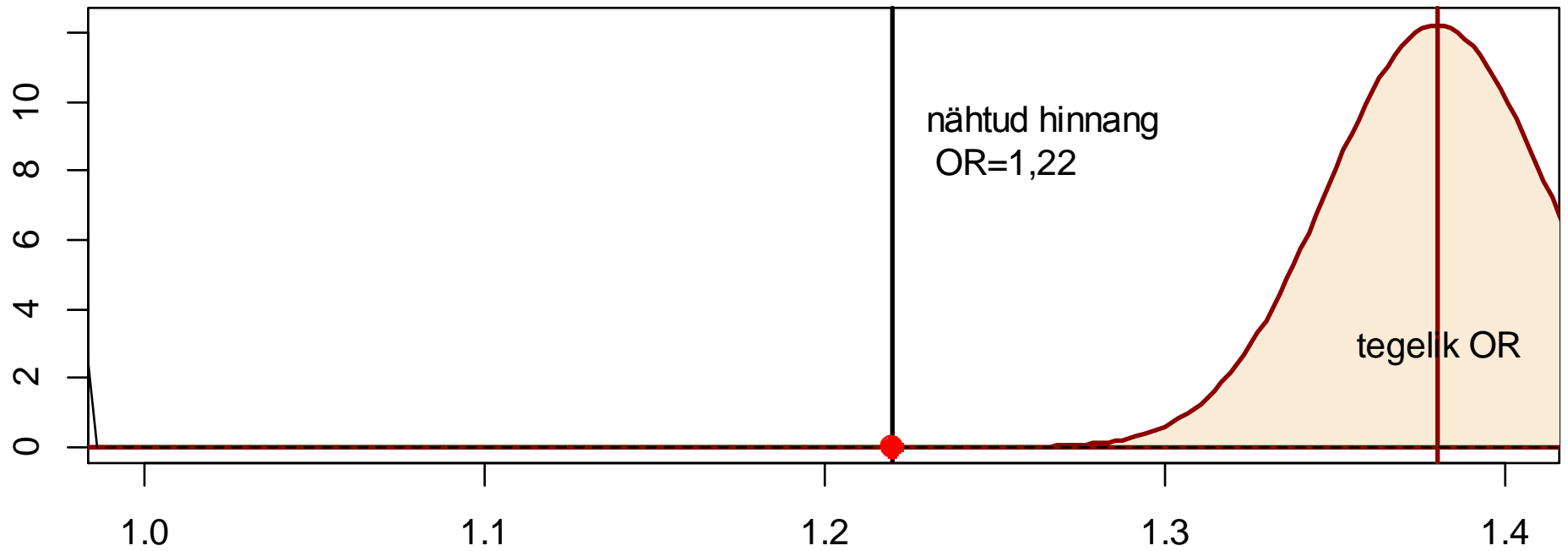
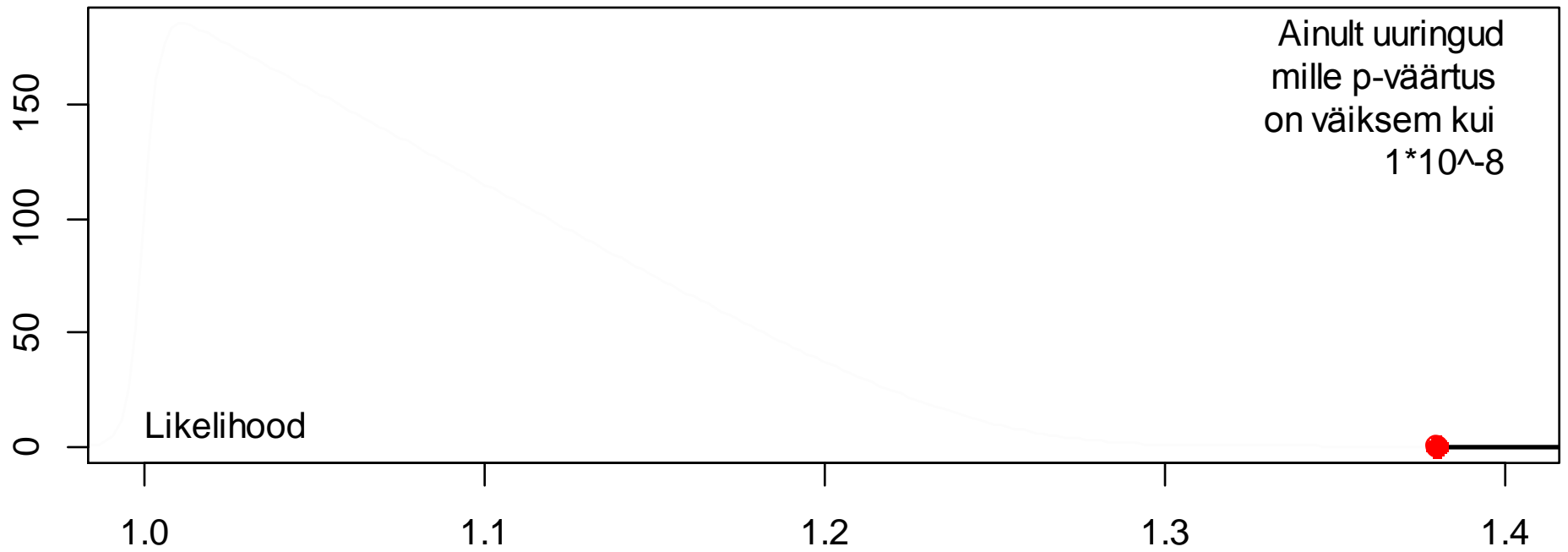
Variant B

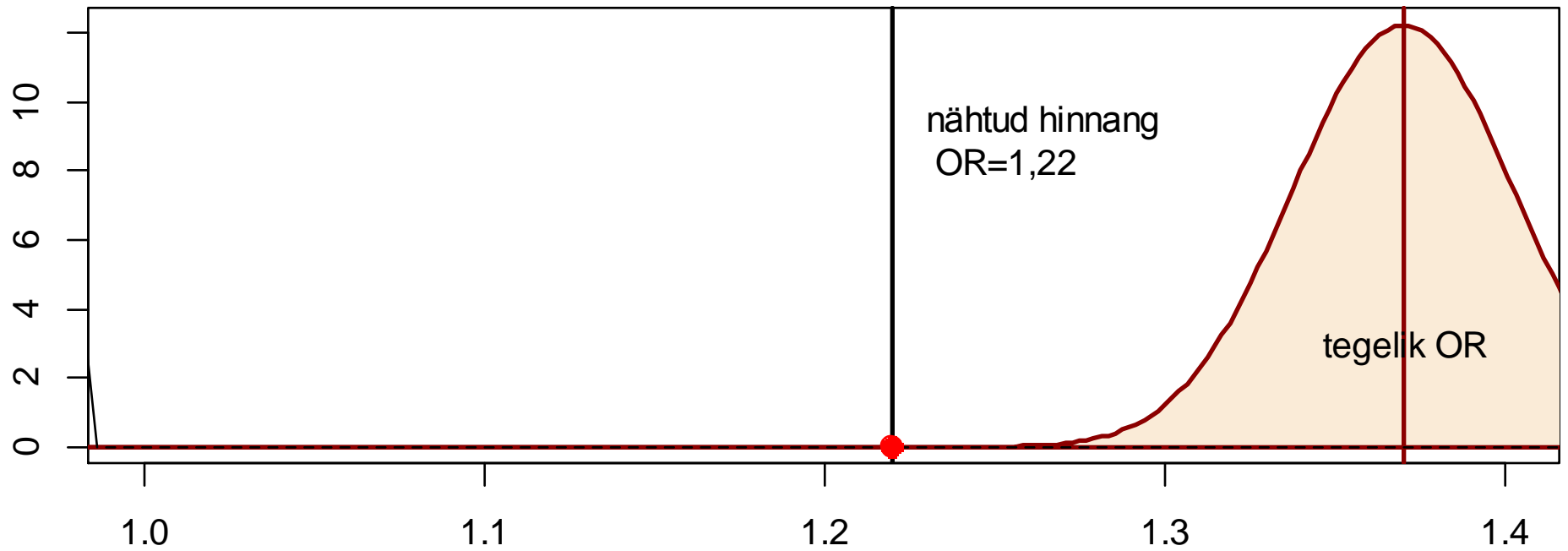
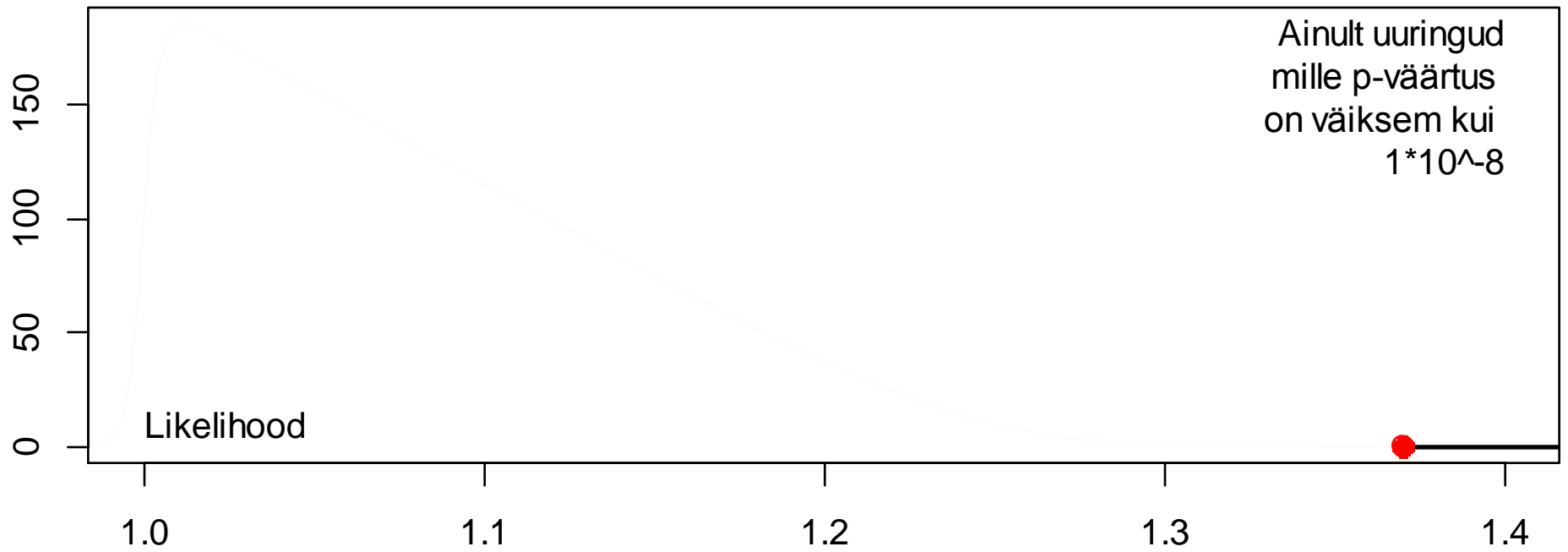
Suurima tõepära hinnang siis, kui tunneme huvi vaid statistiliselt oluliste tulemuste (p -väärtus $< 1e-8$) vastu (**selekteerime teadustulemusi**)

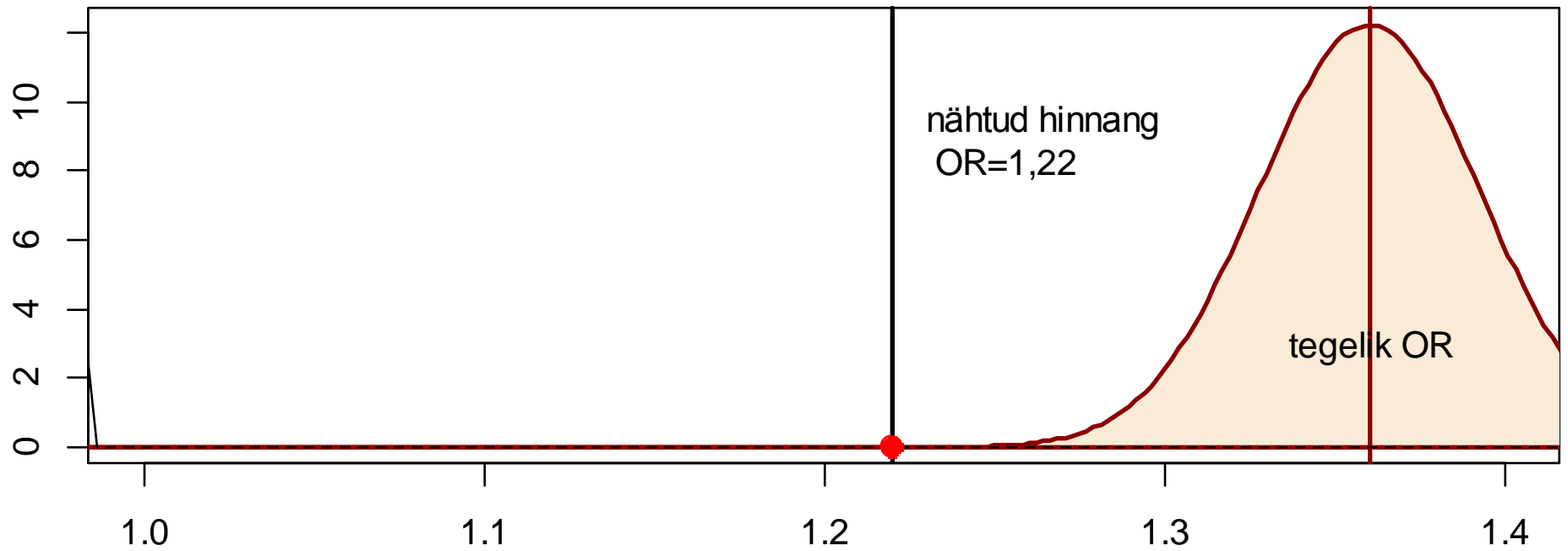
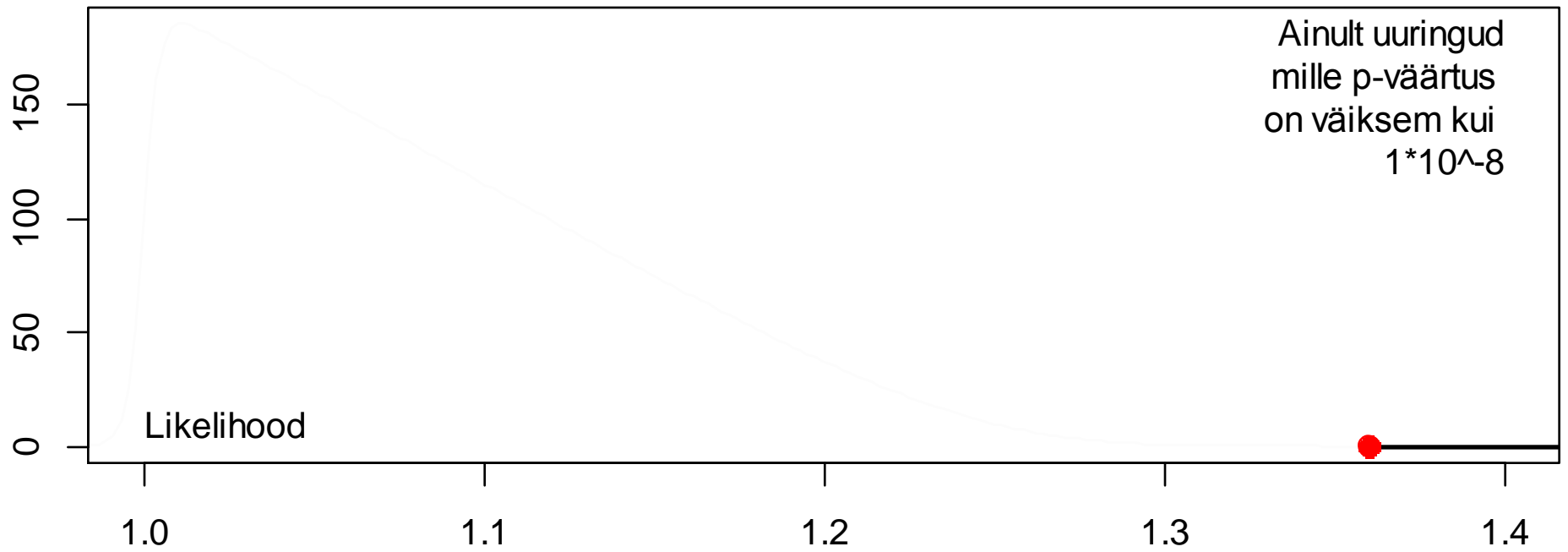
Otsime välja statistiliselt olulised mõjud (olulisuse nivool $1e-8$) ja tunneme huvi vaid nende tulemuste vastu... ja näeme väljasõelatud tulemuste seas SNP-i, mille mõju on $OR=1,22$.

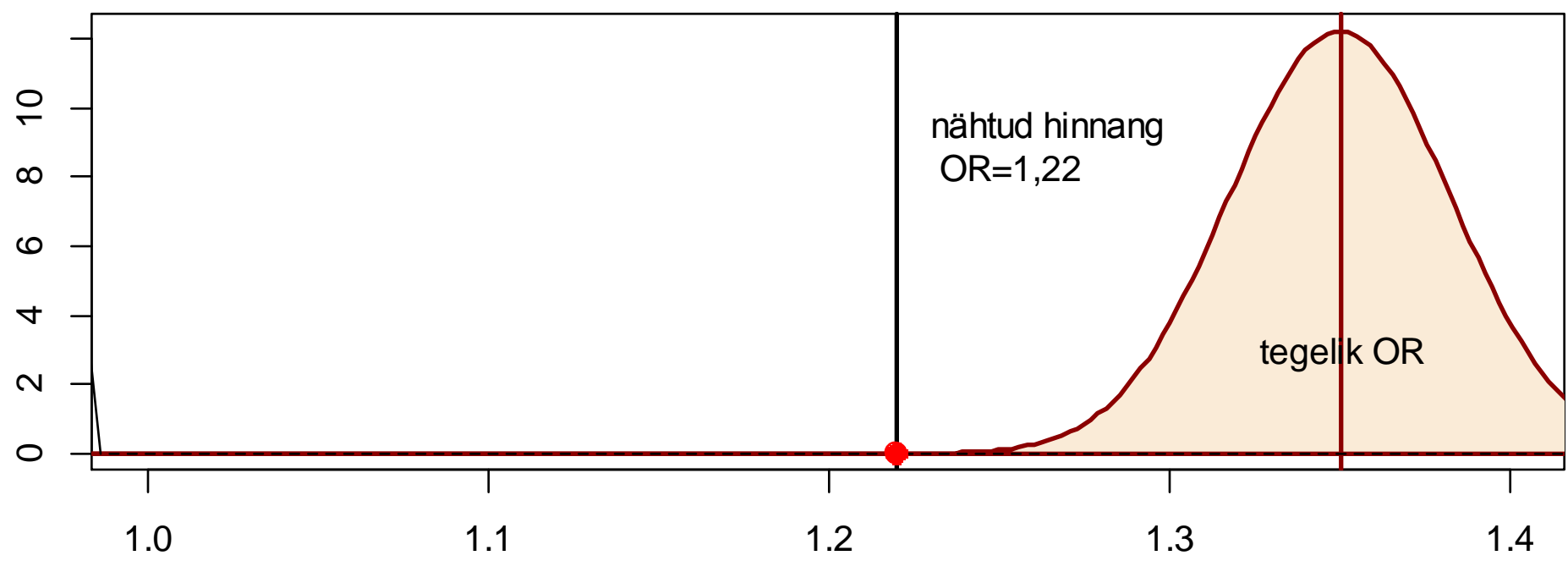
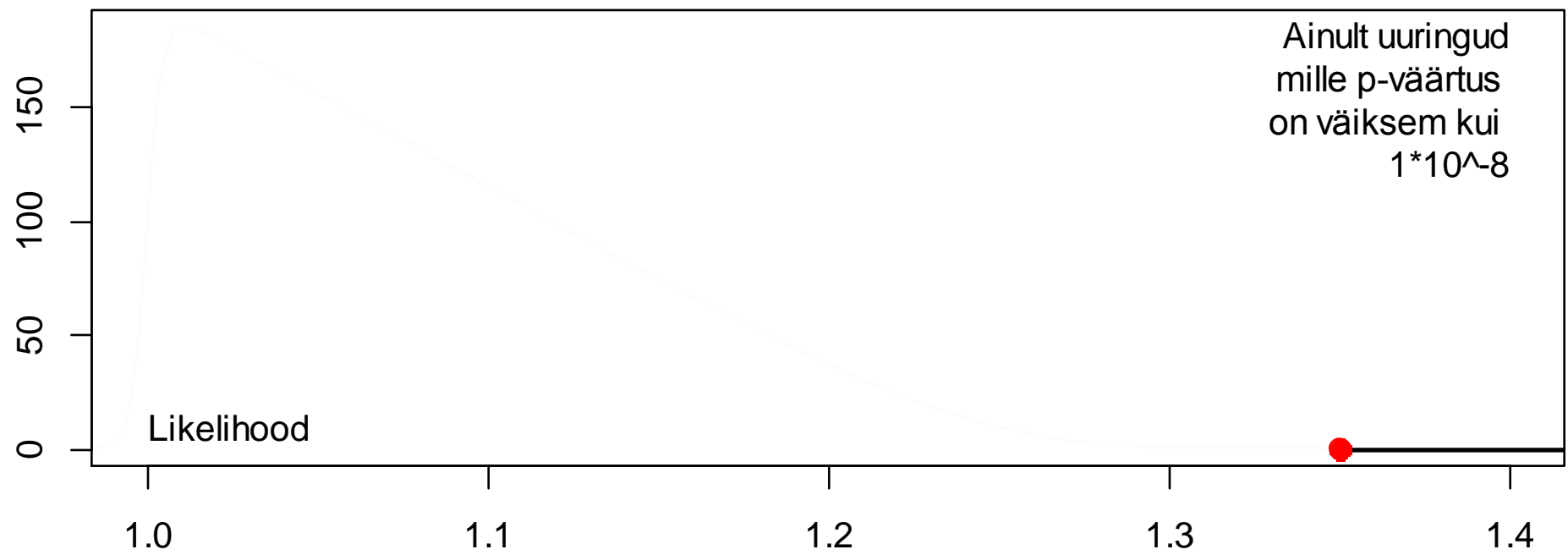


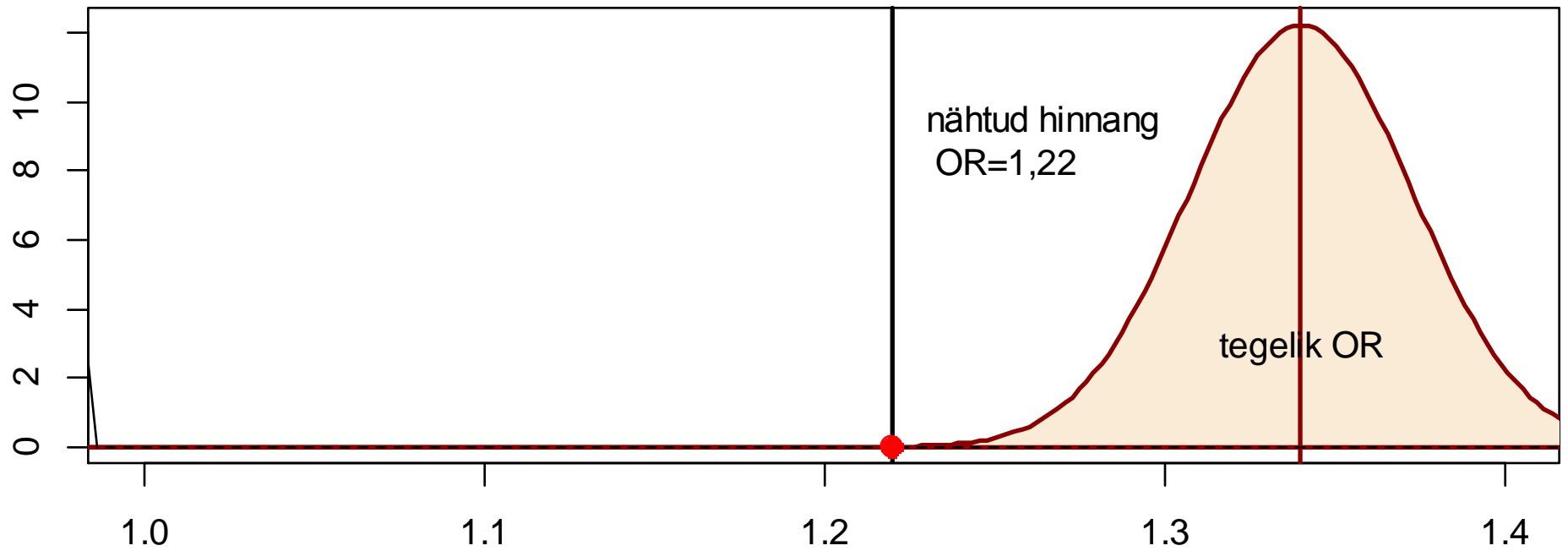
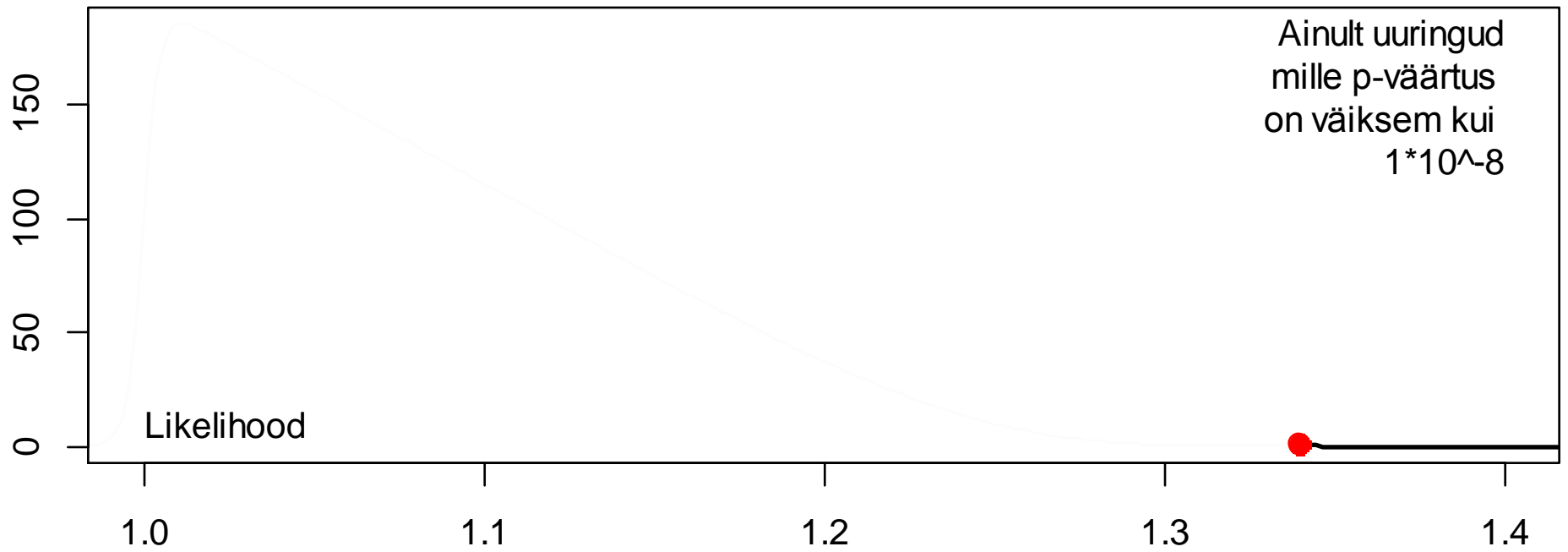


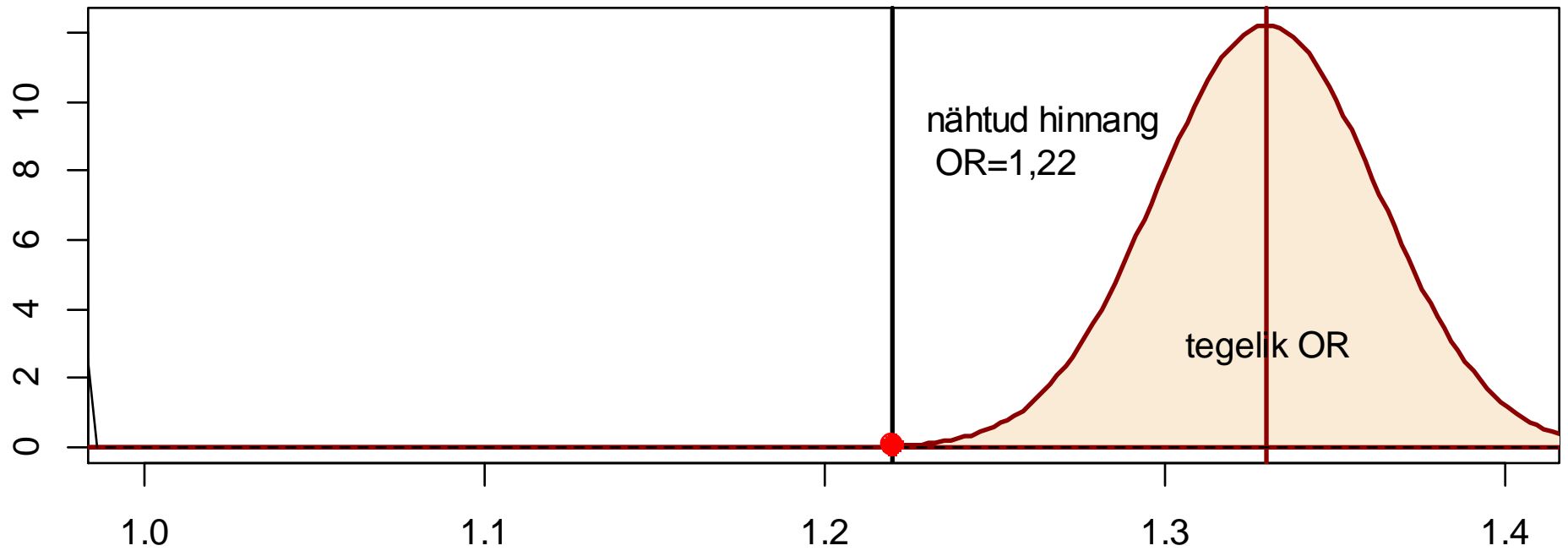
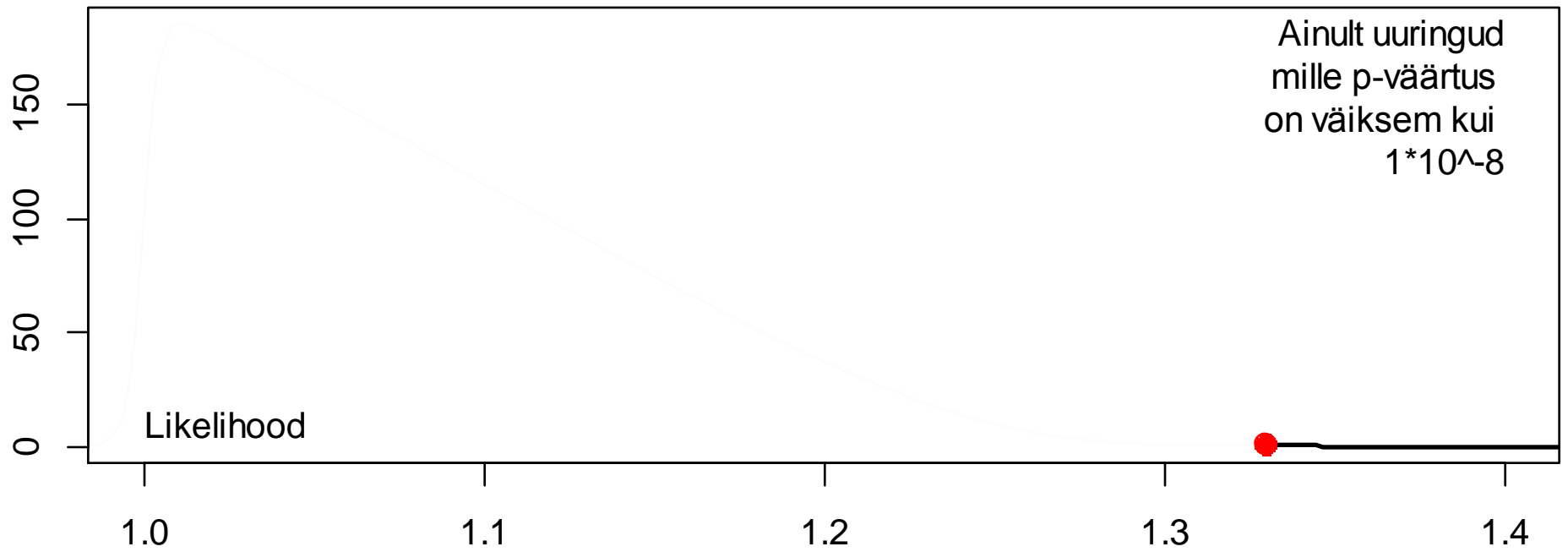


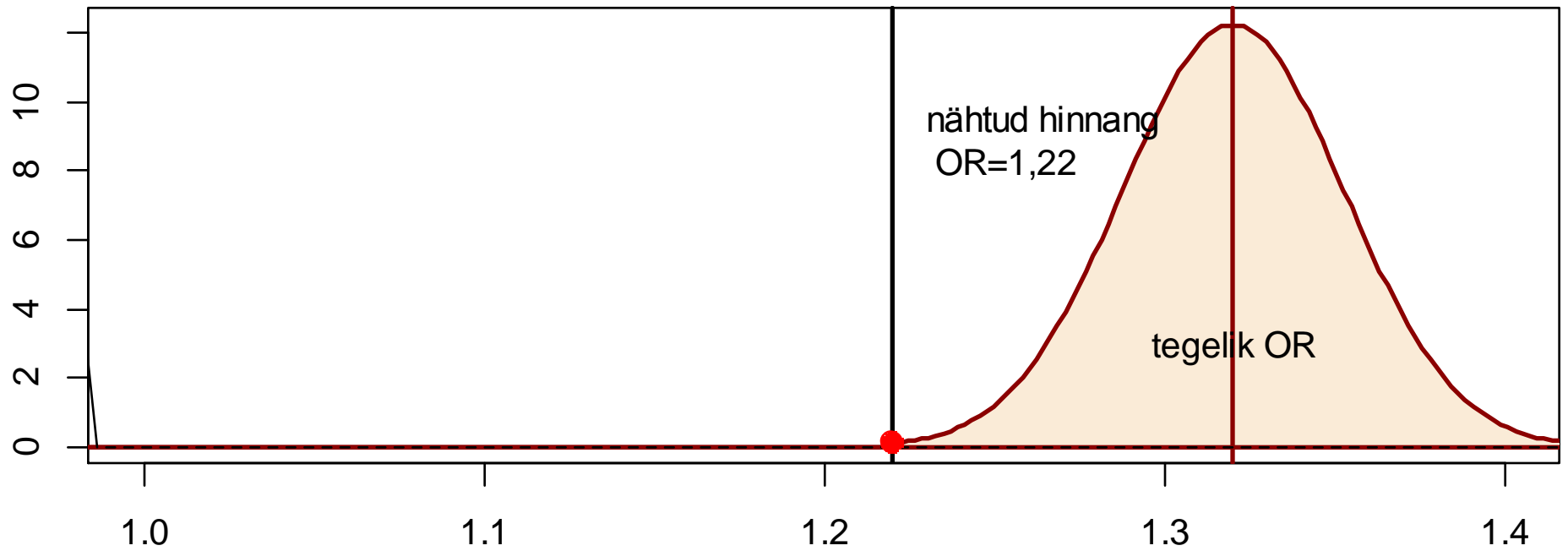
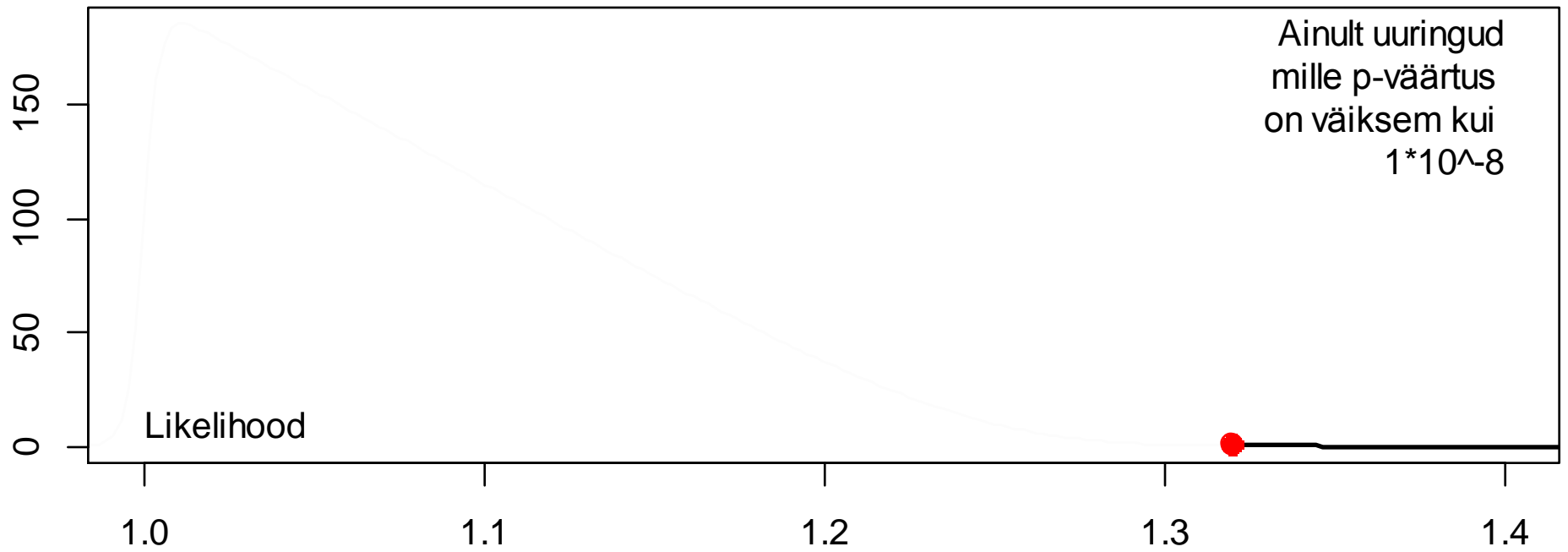


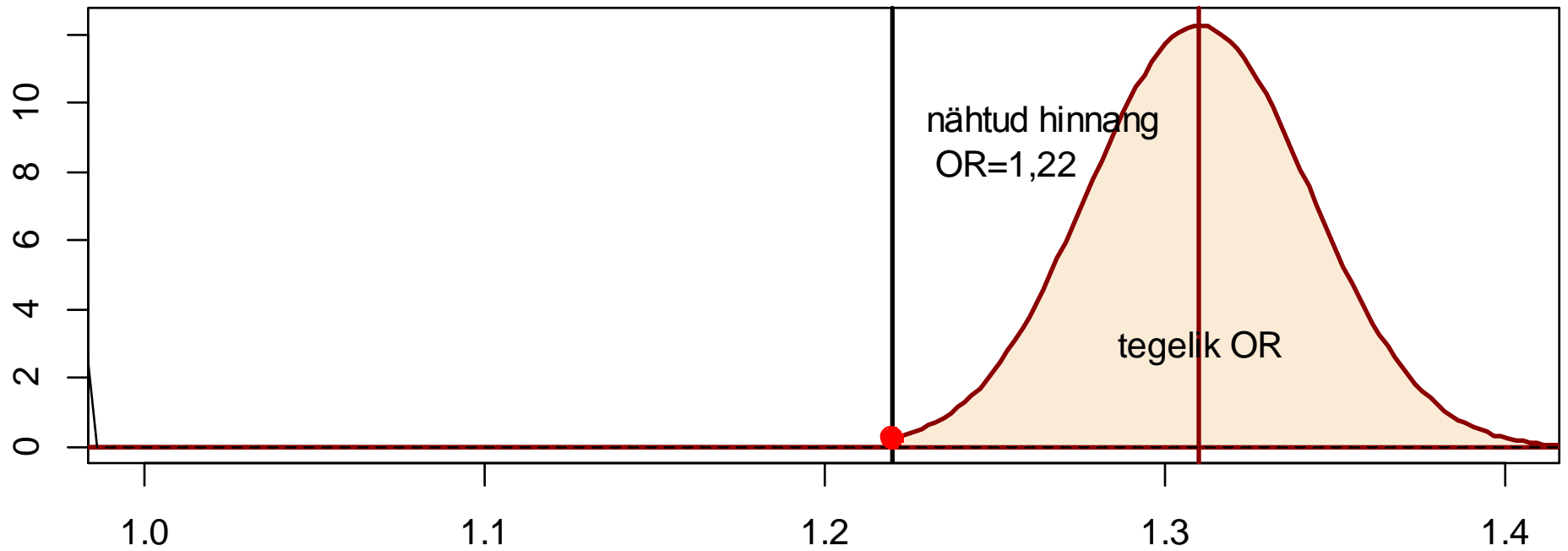
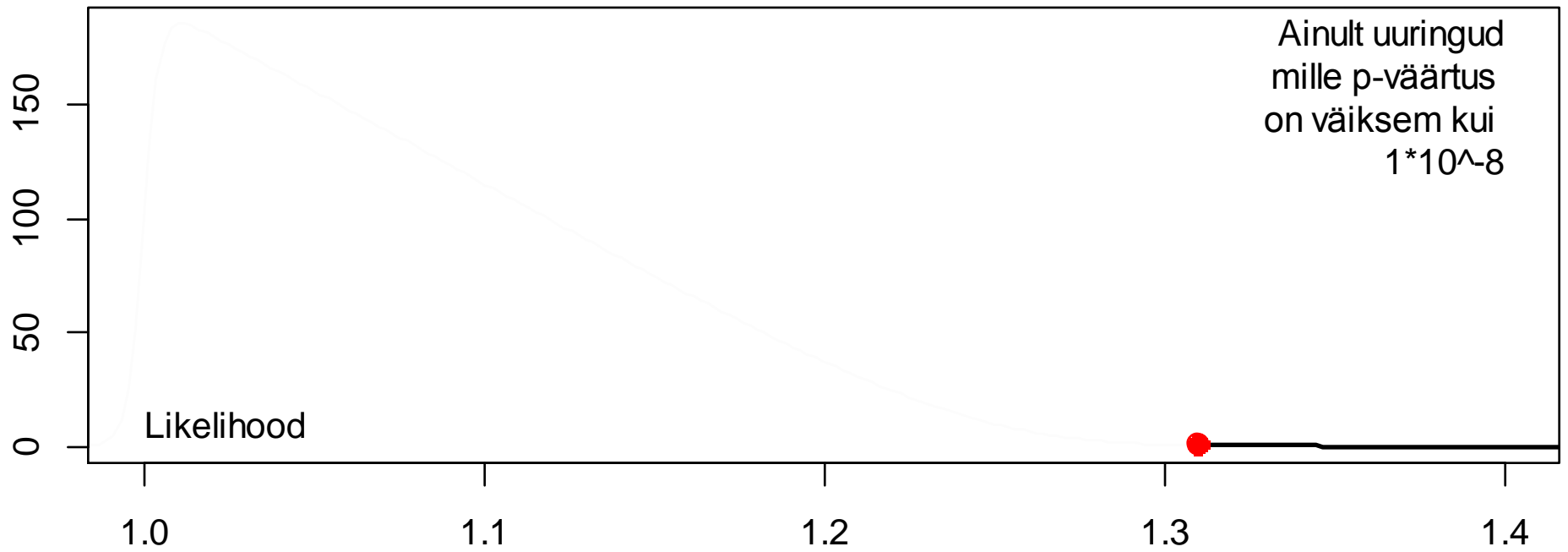


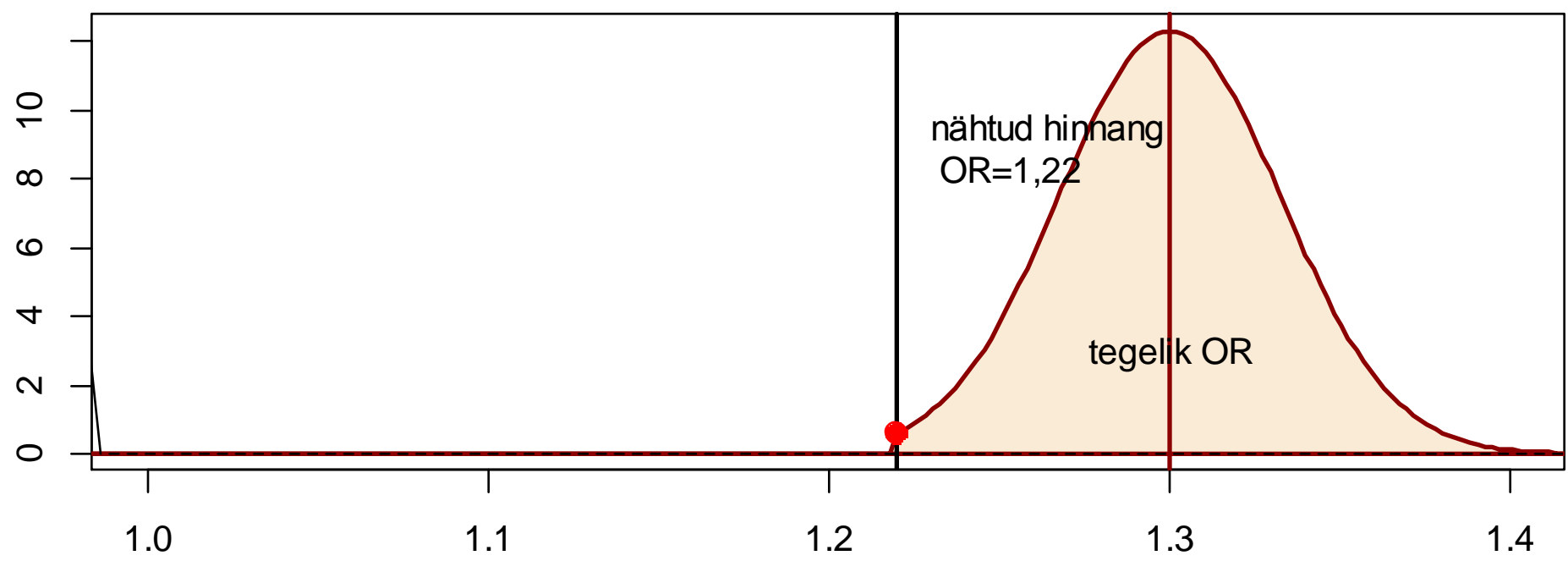
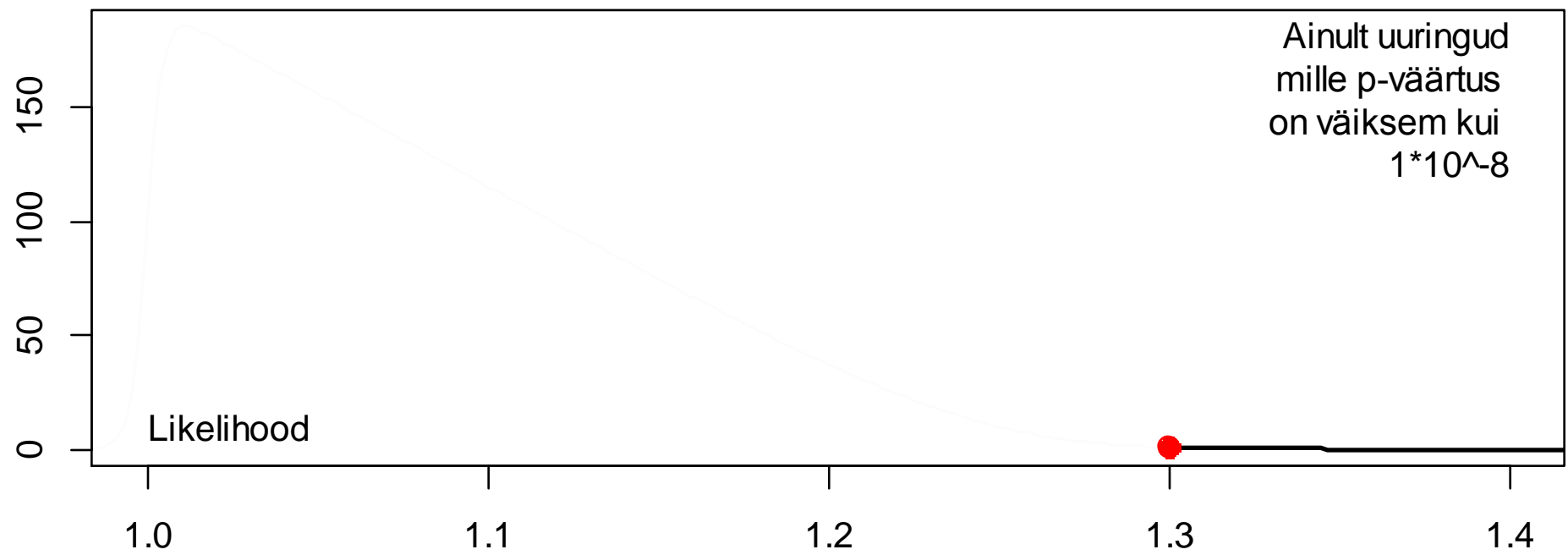


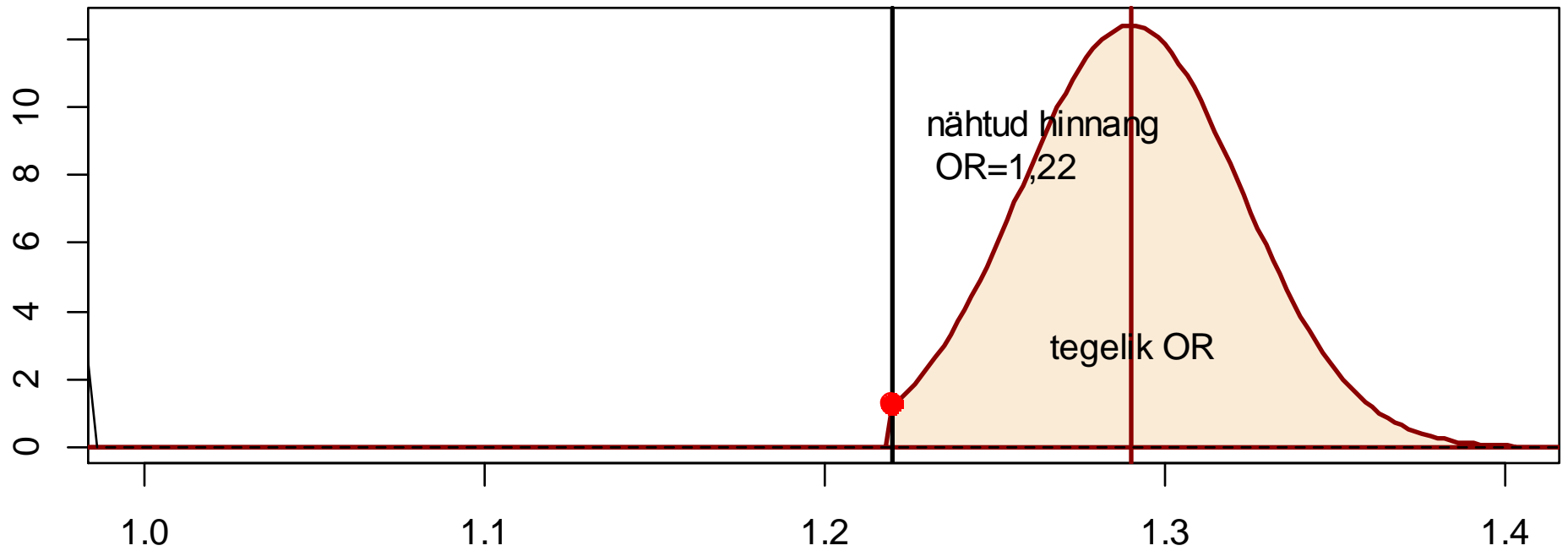
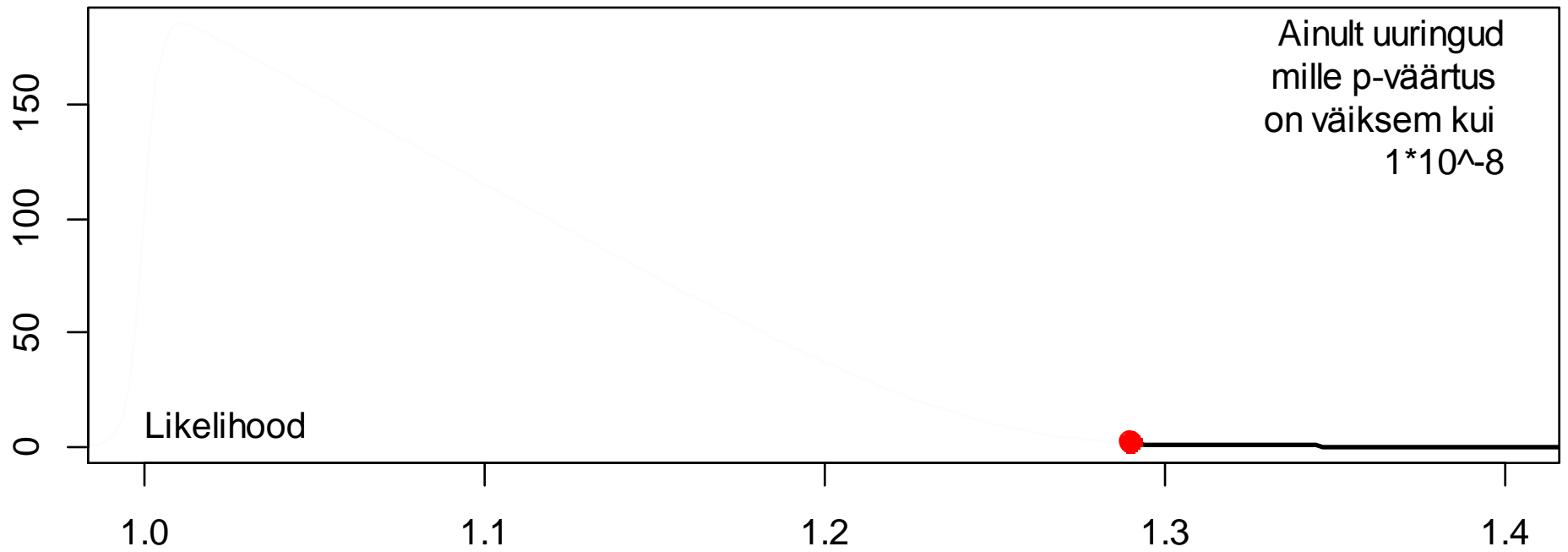


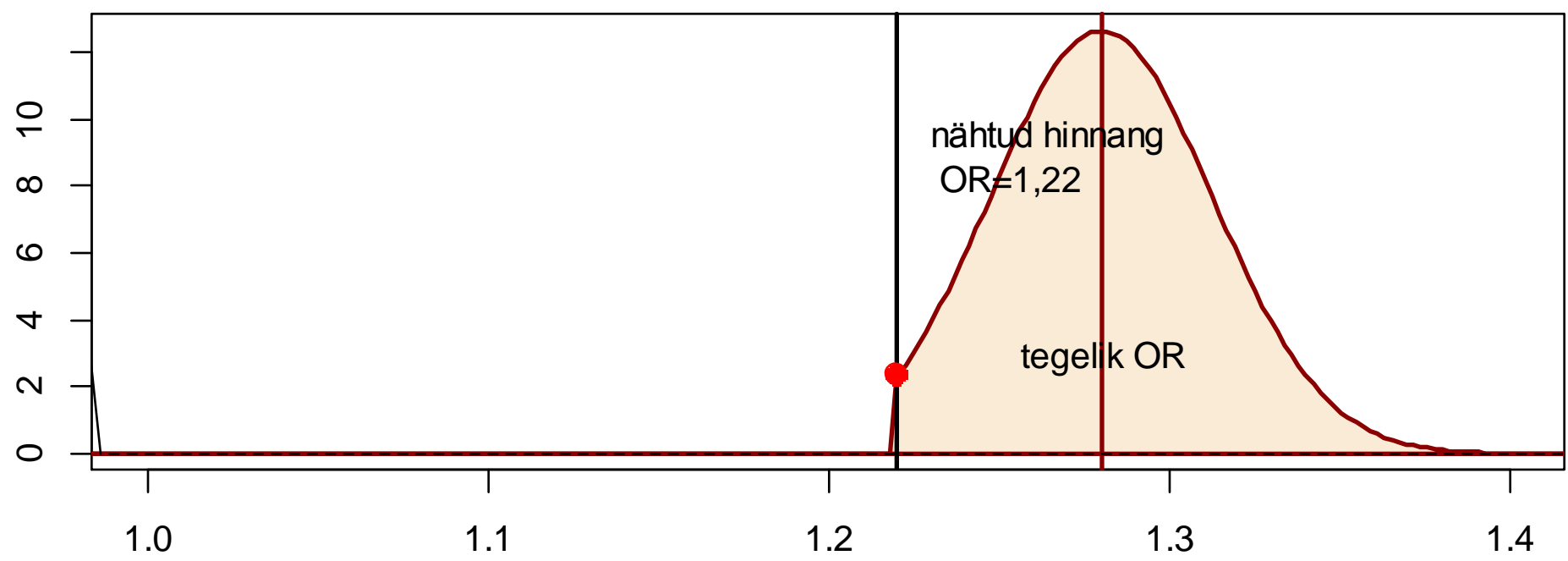
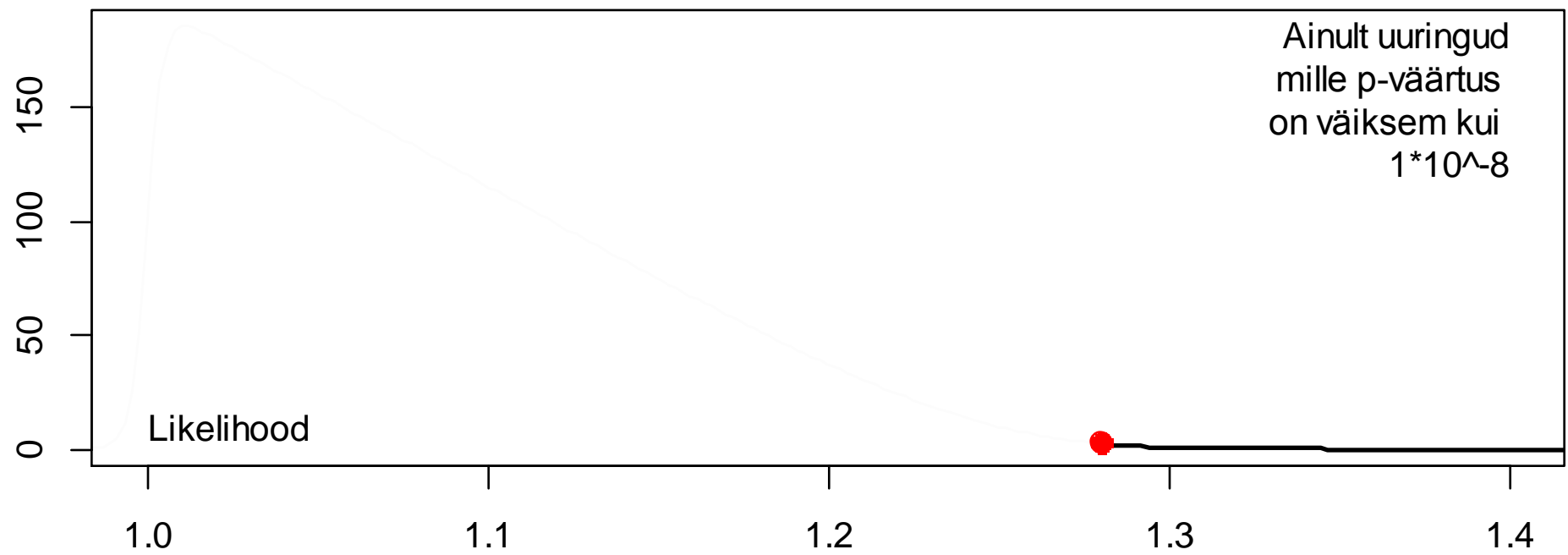


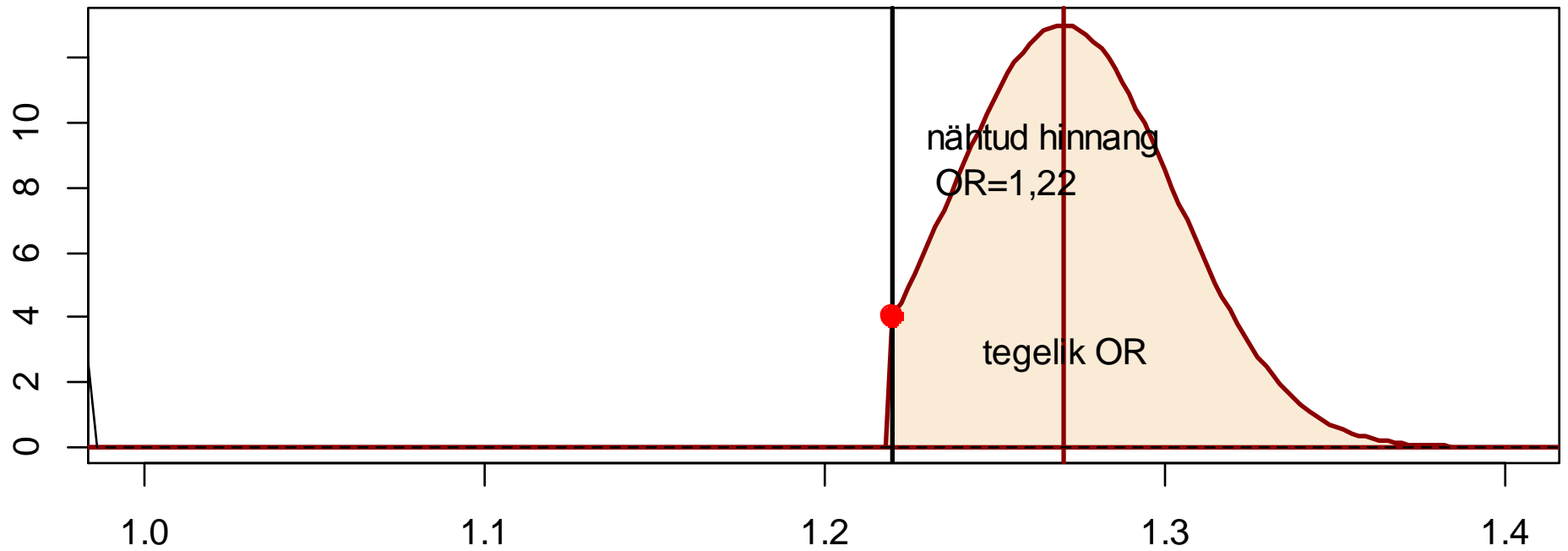
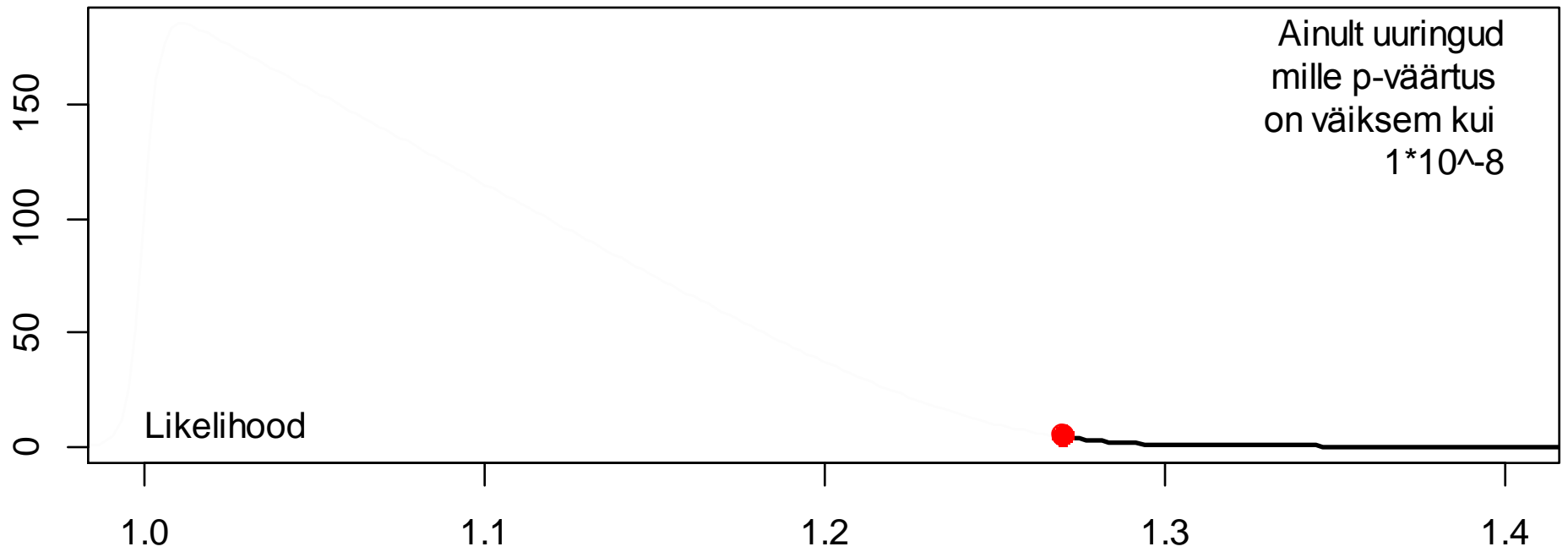


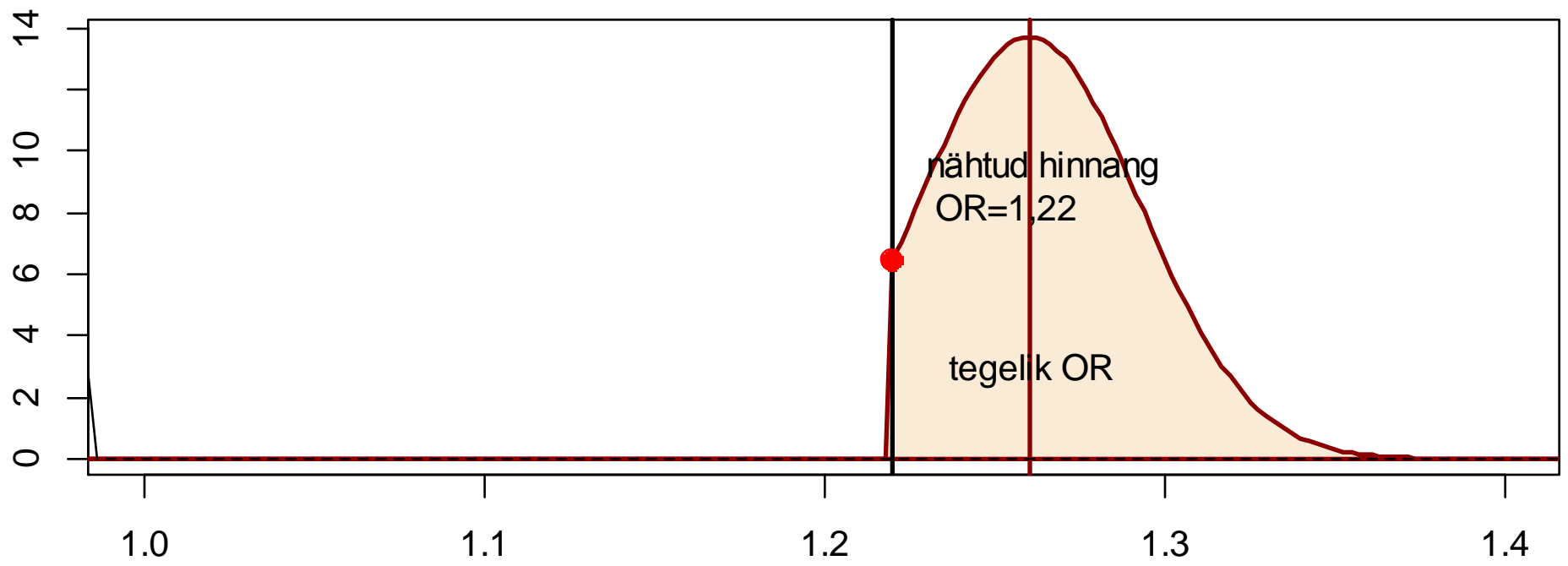
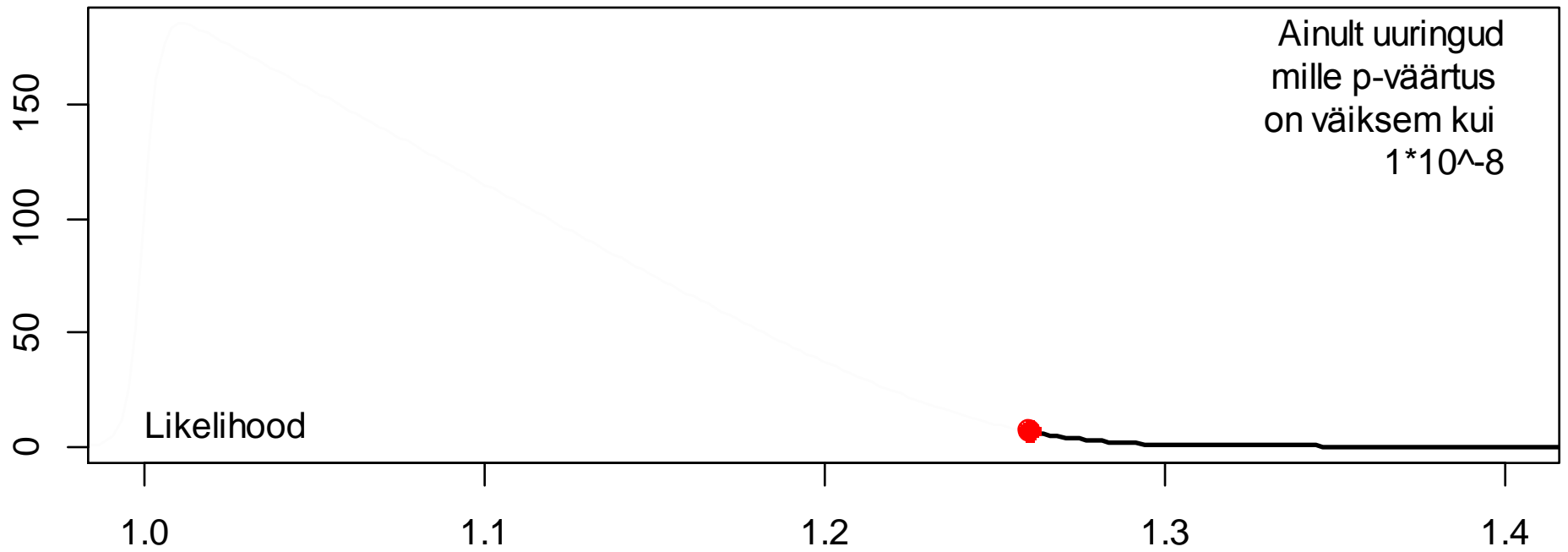


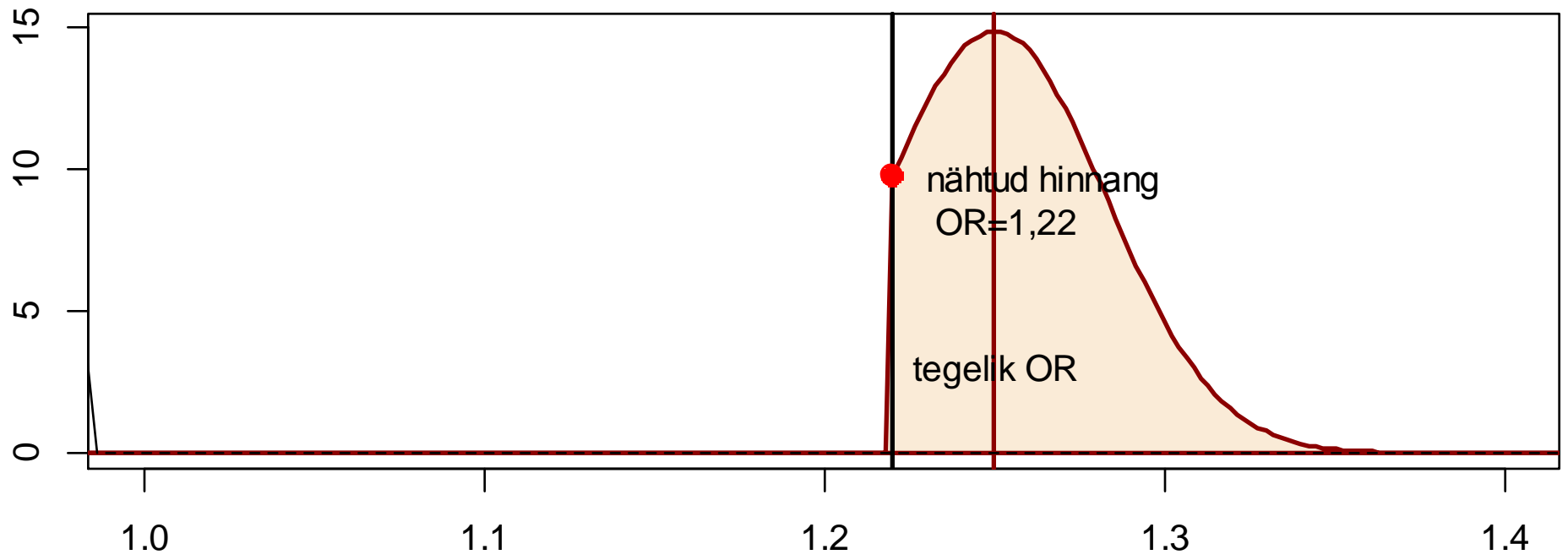
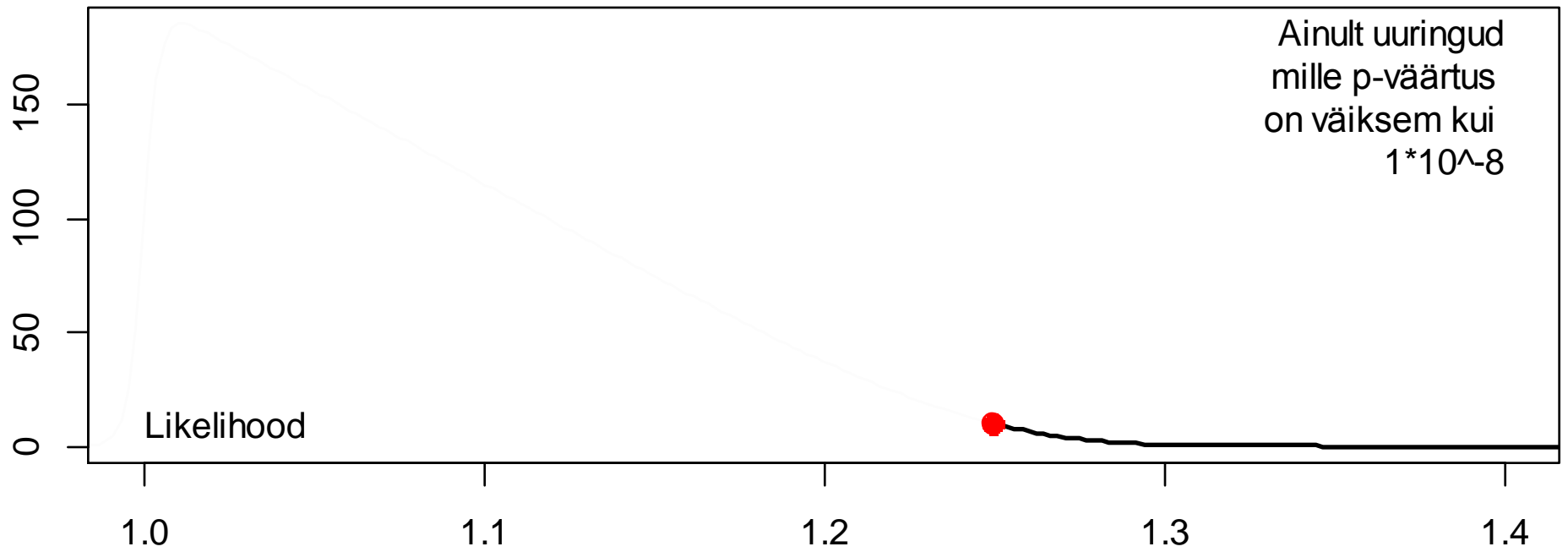


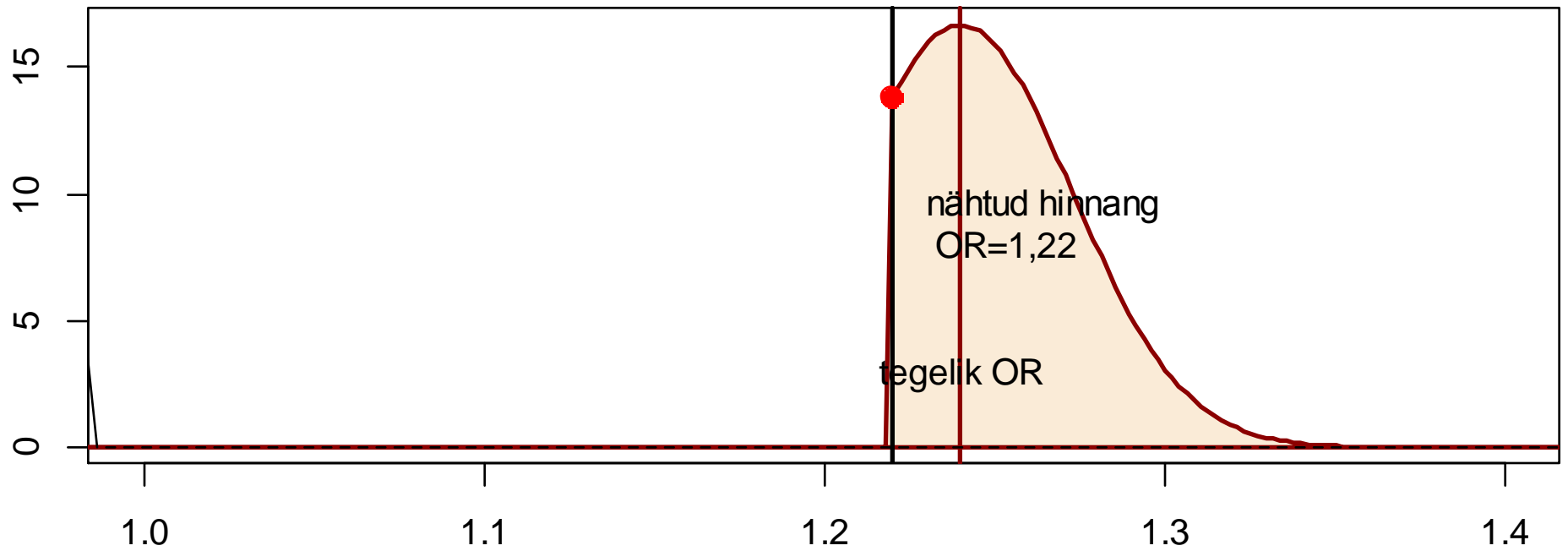
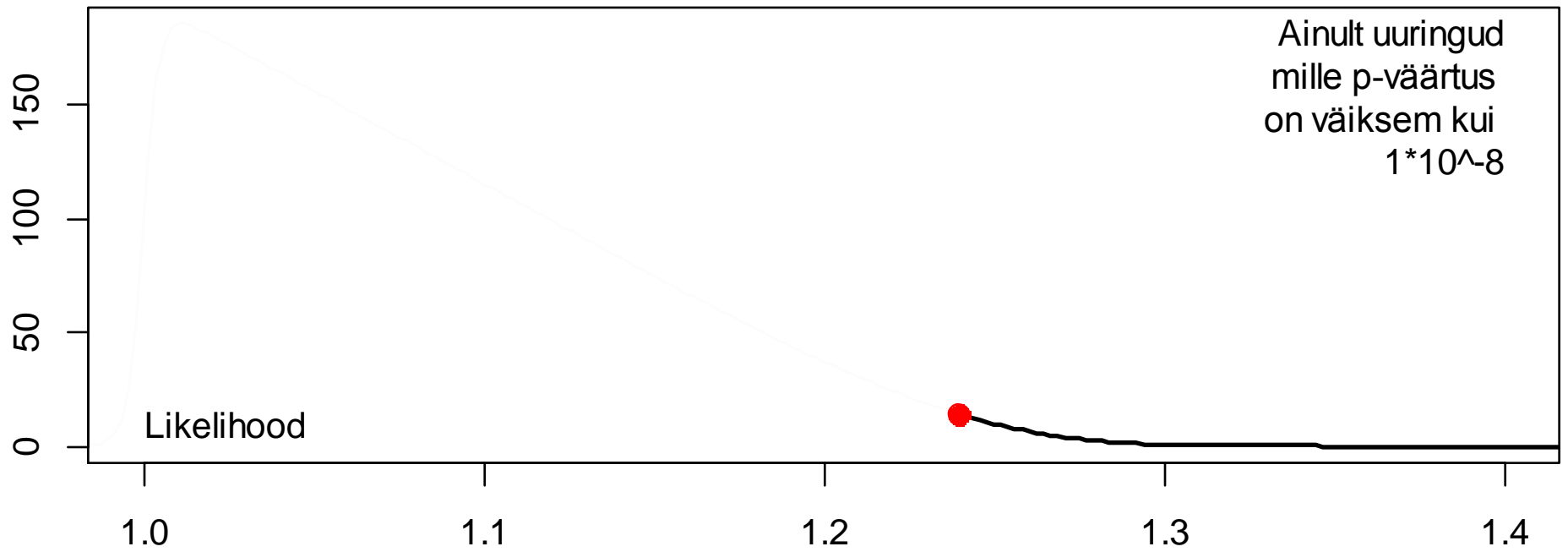


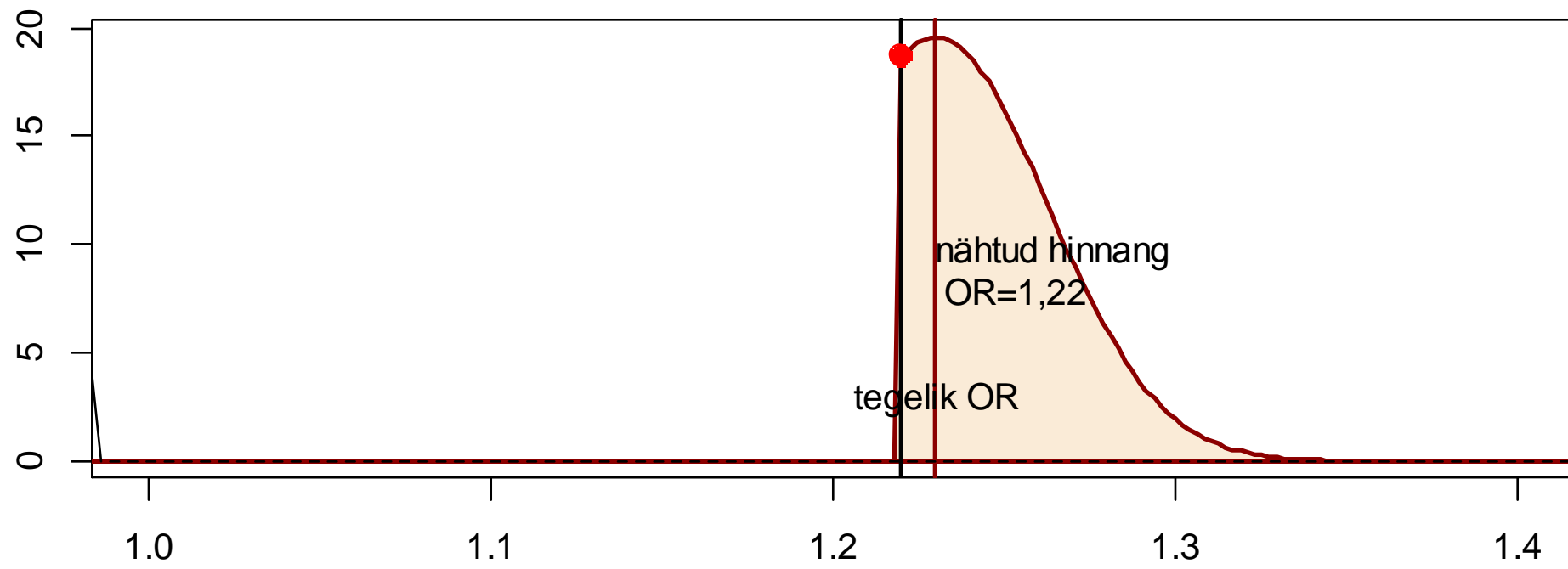
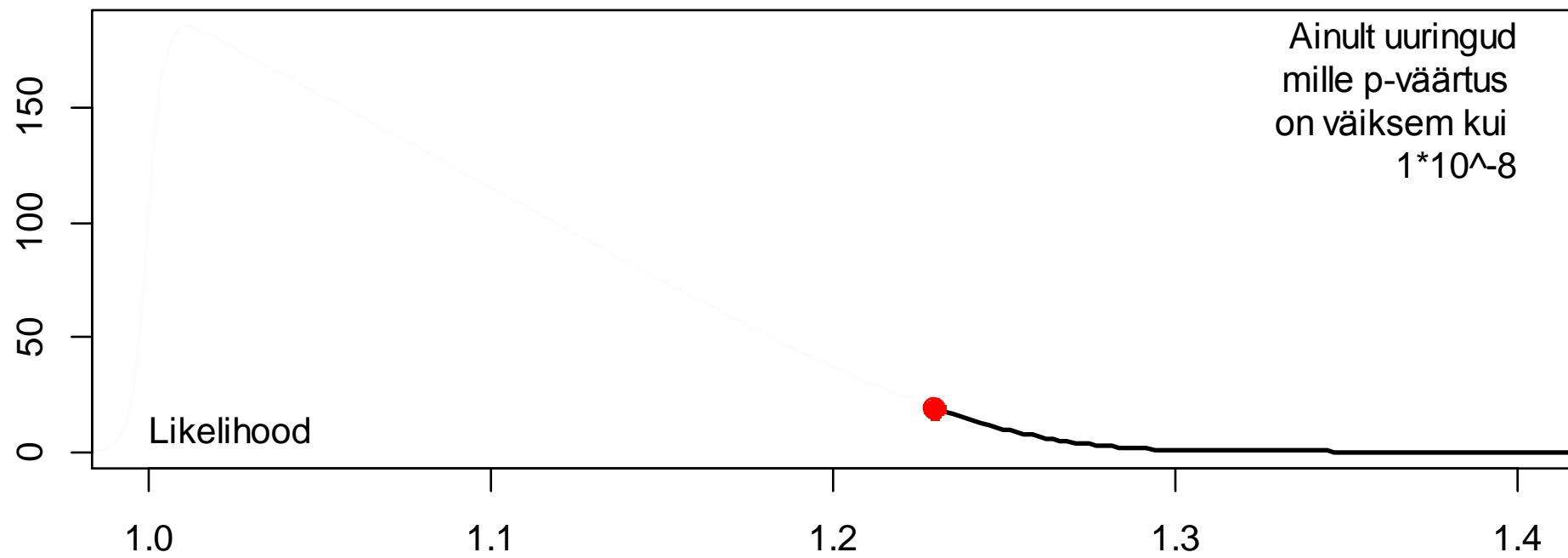


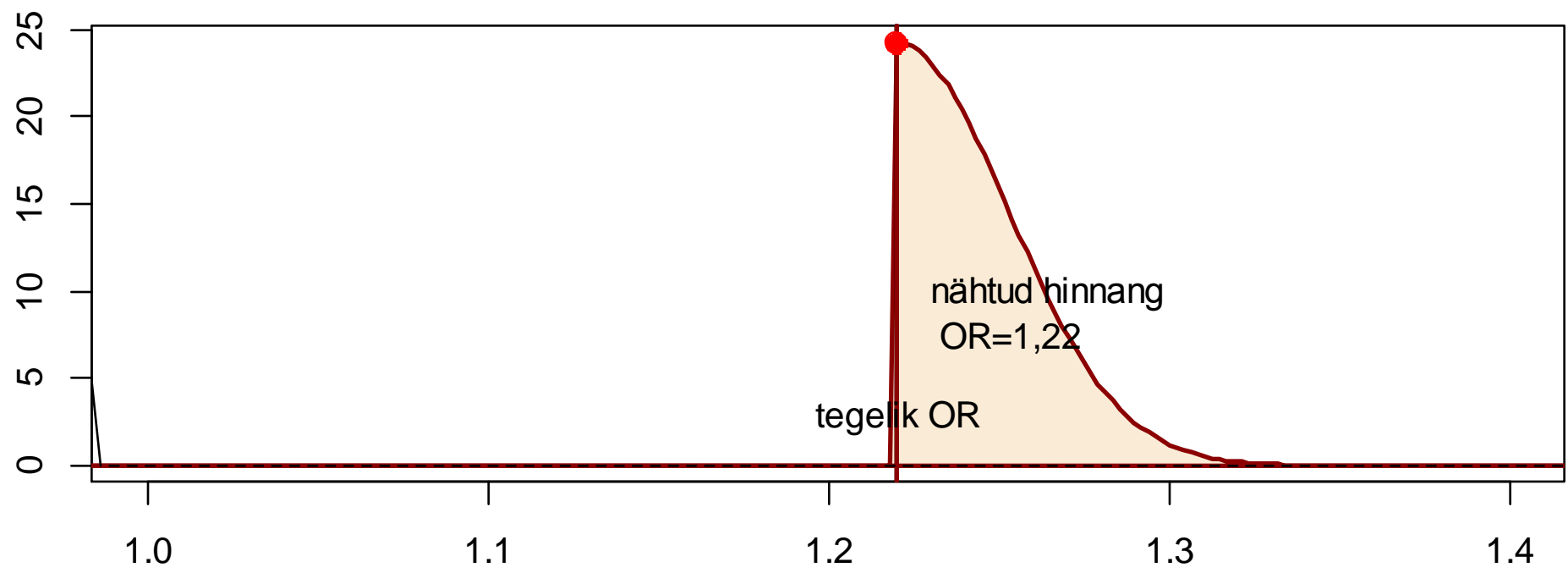
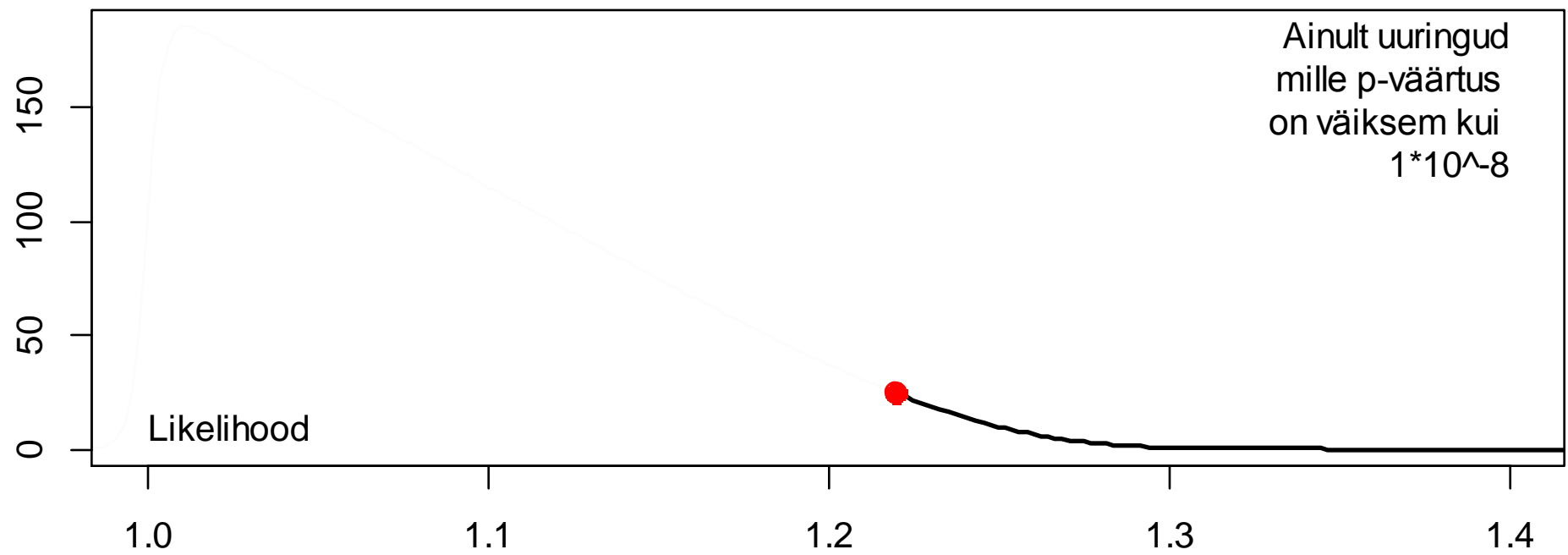


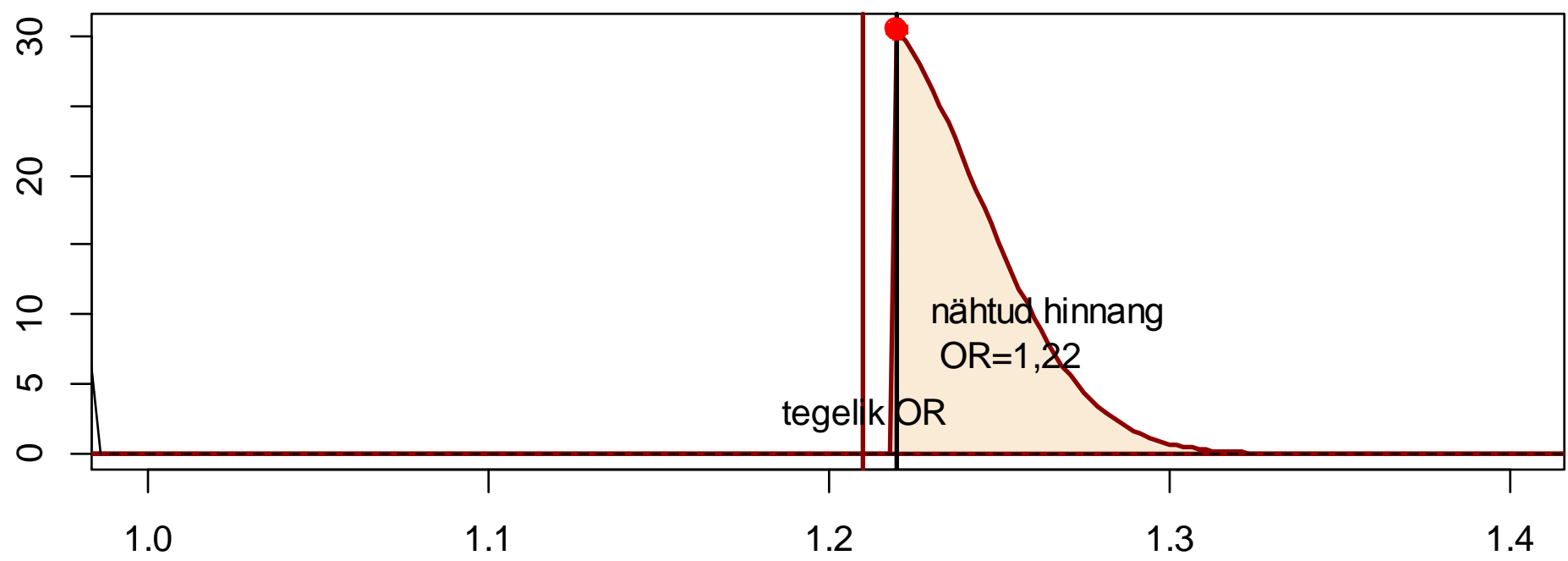
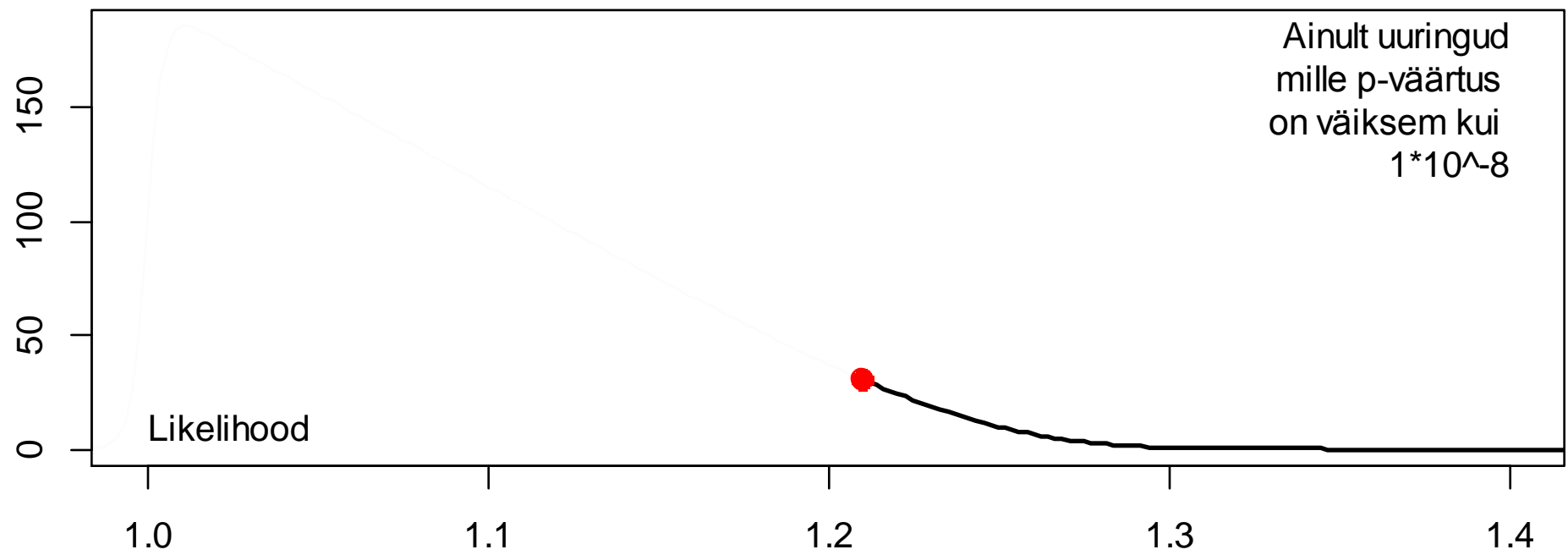


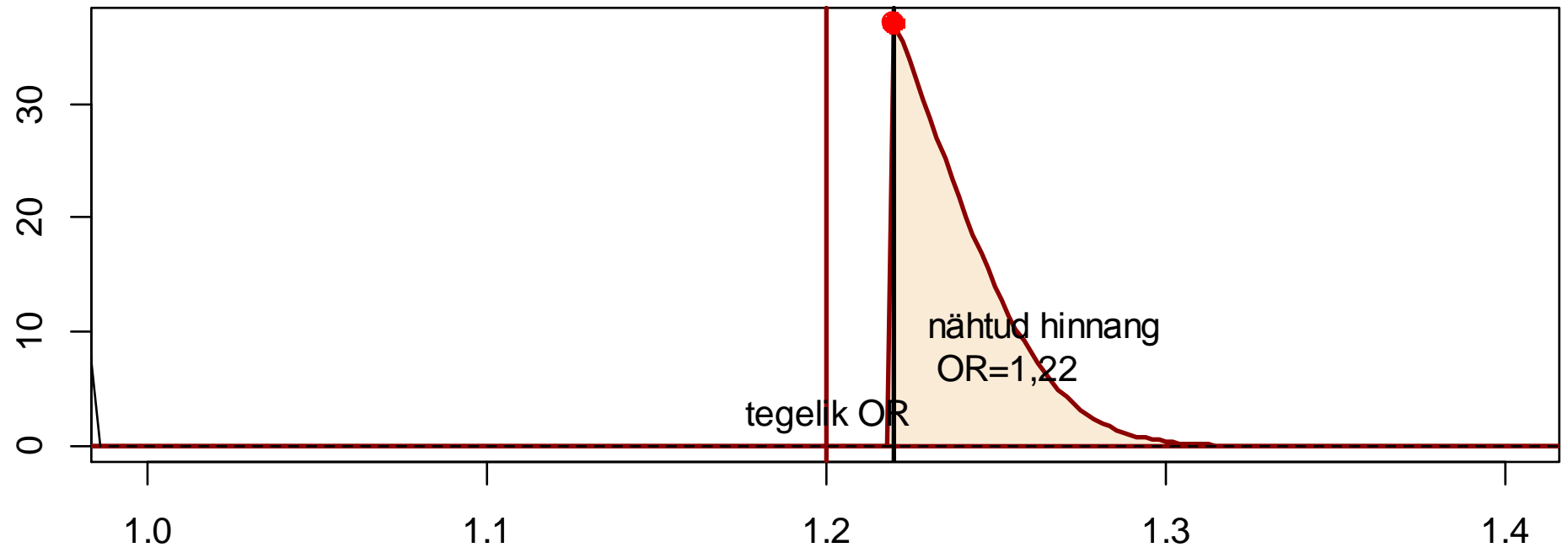
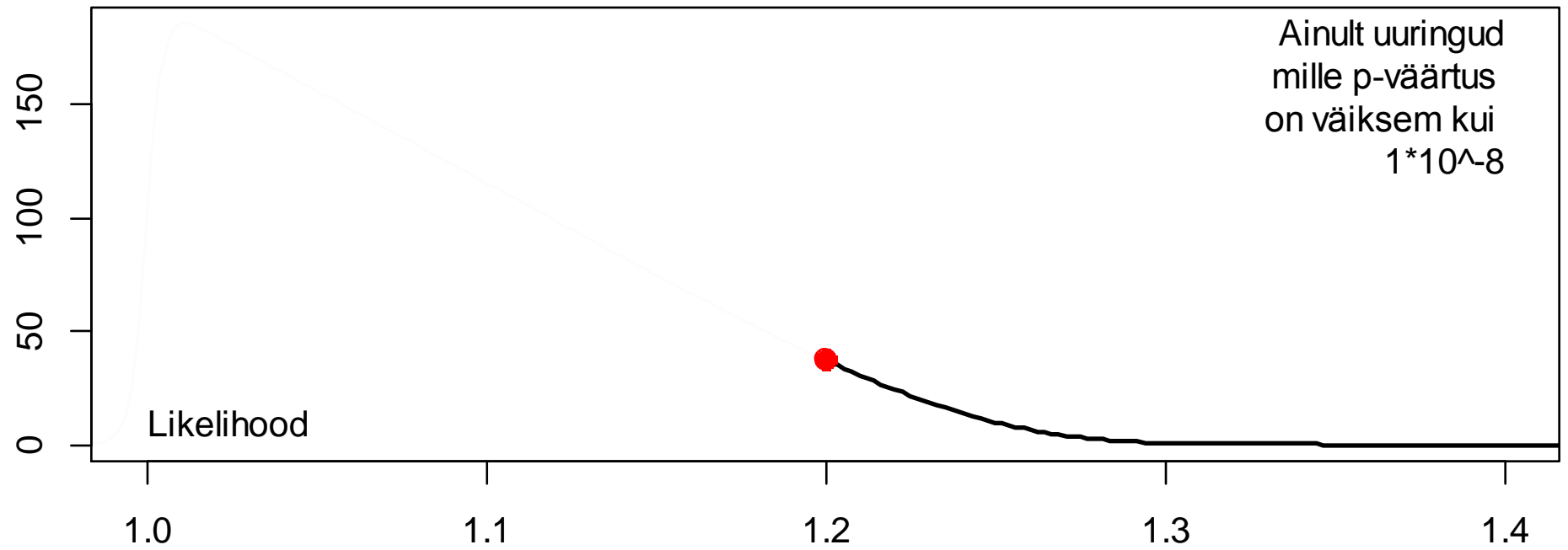


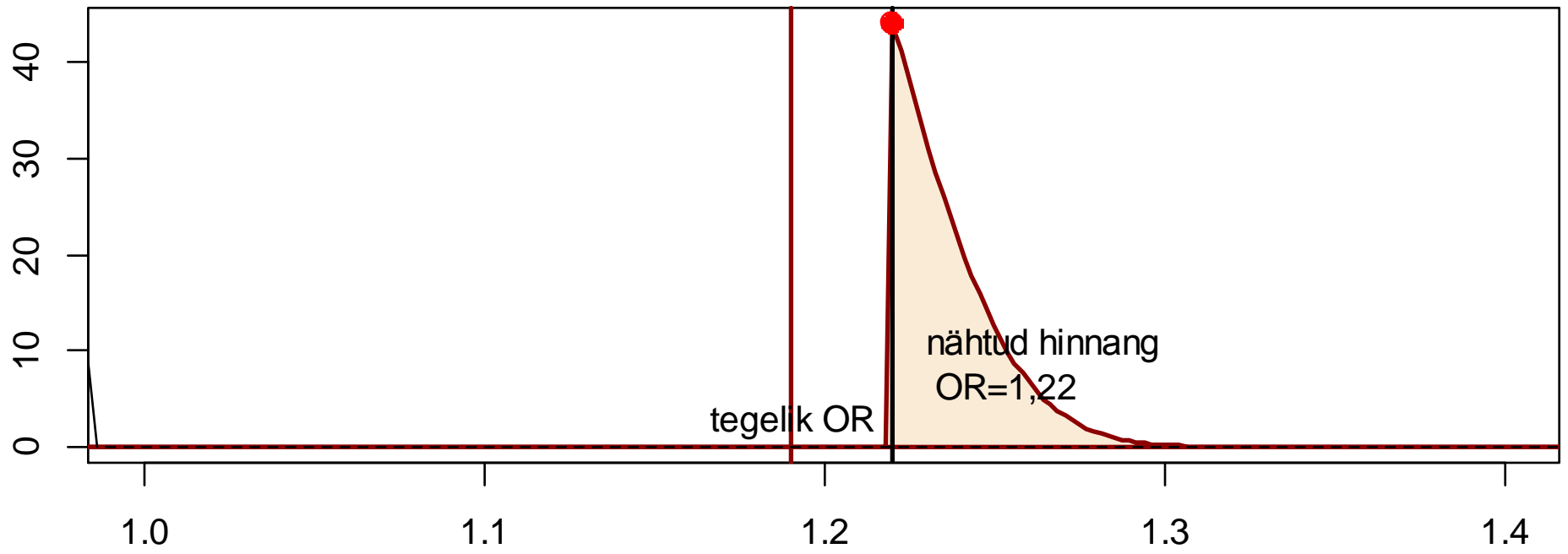
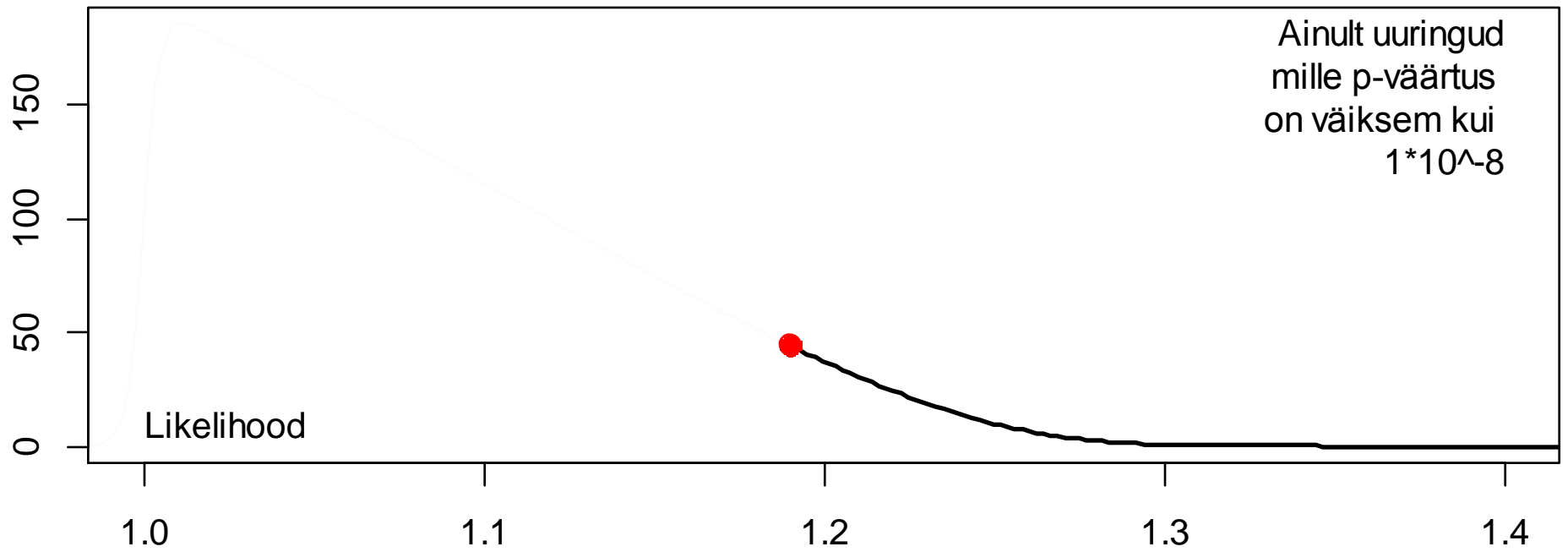


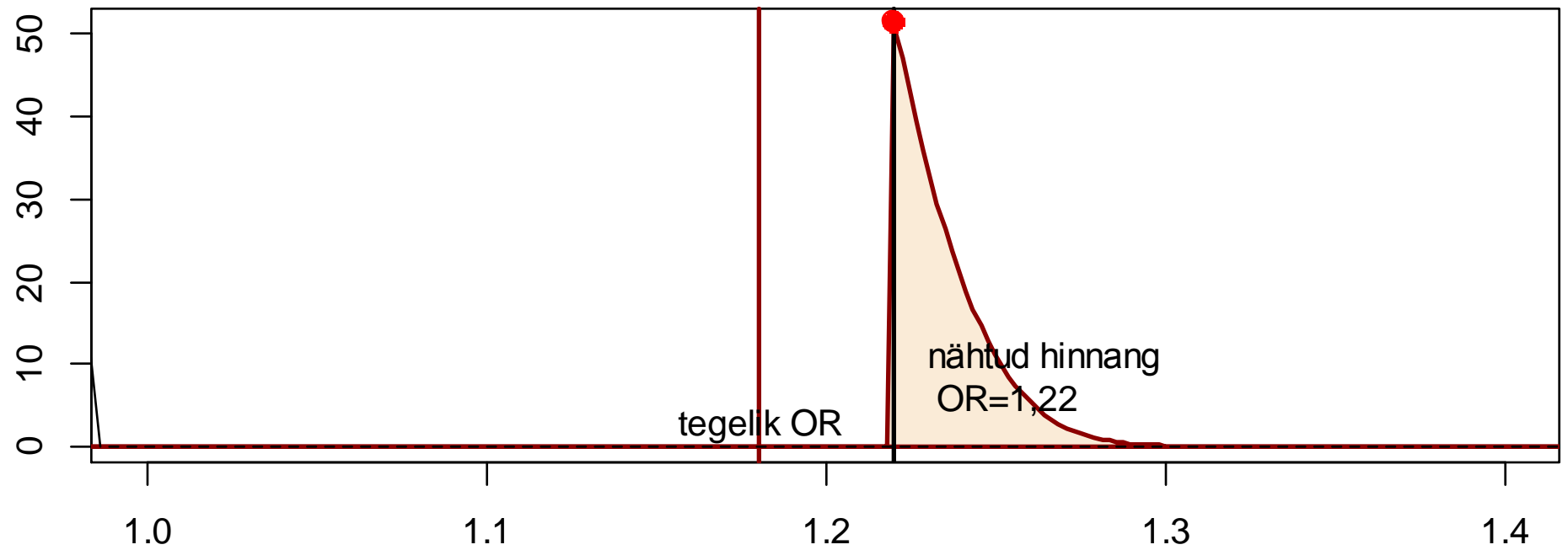
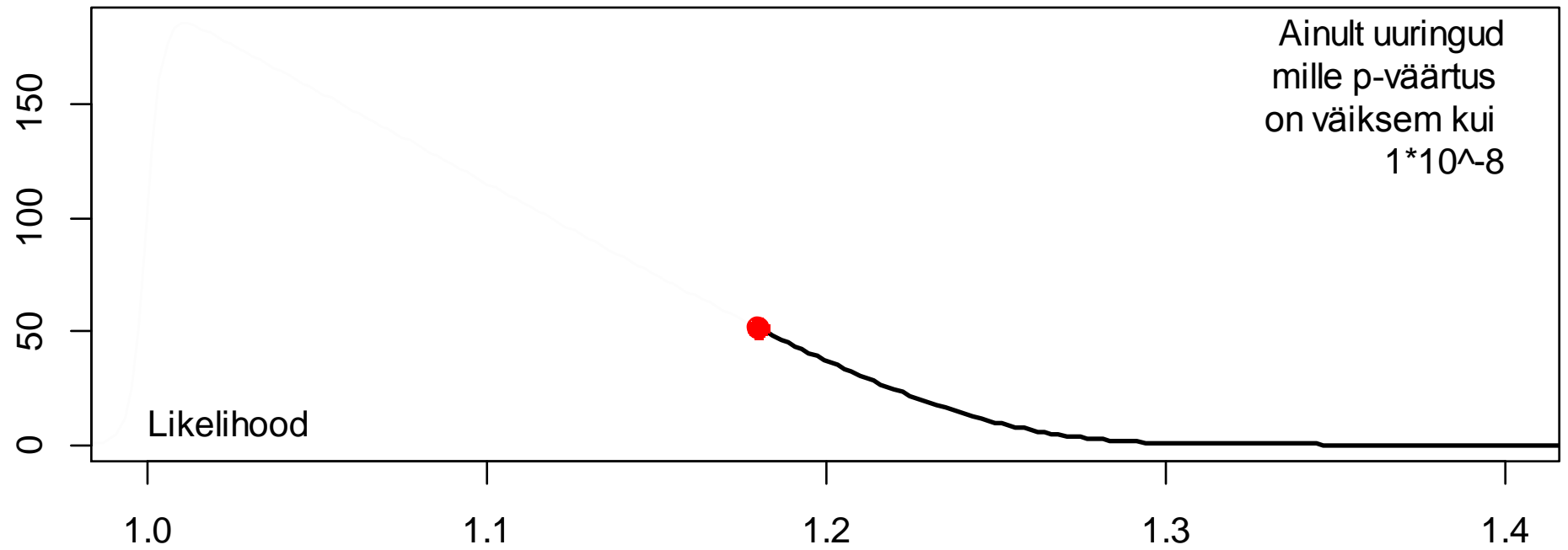


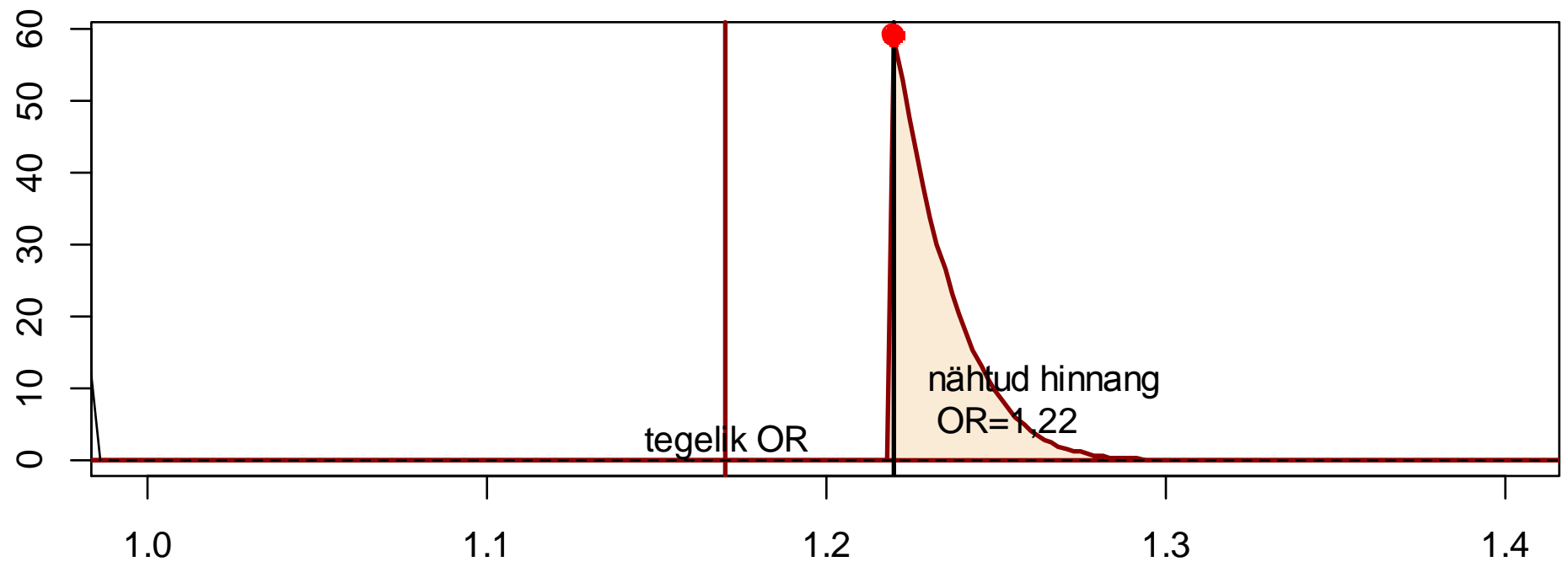
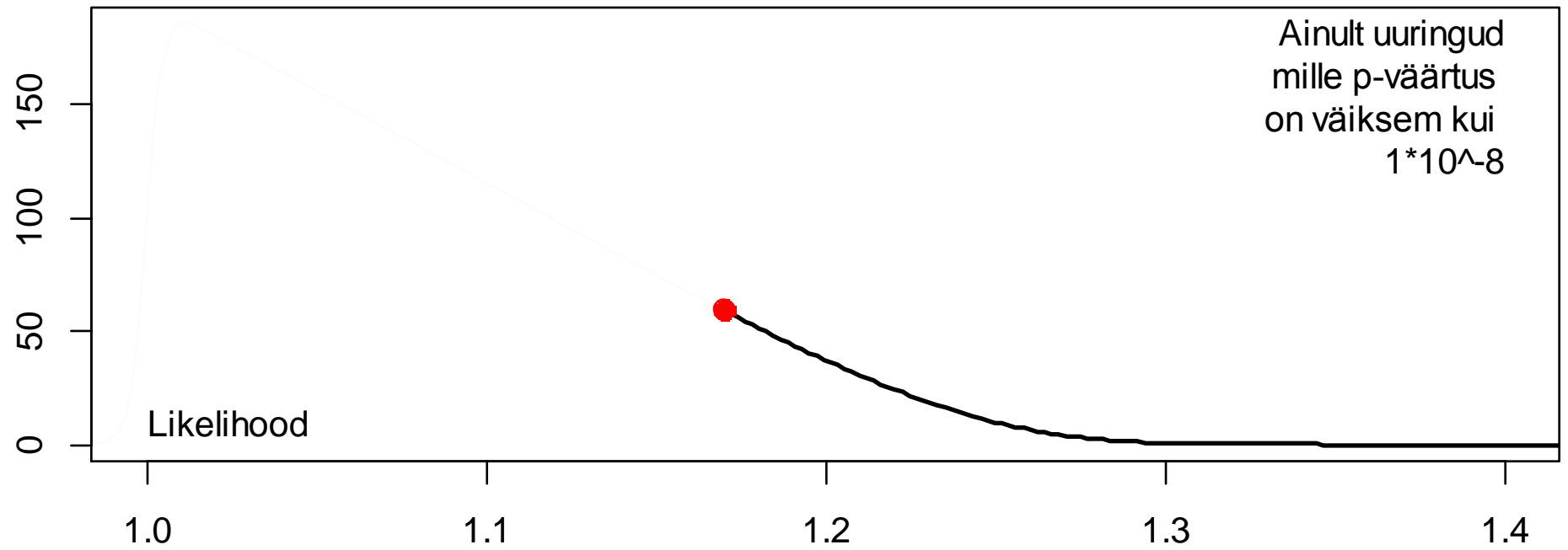


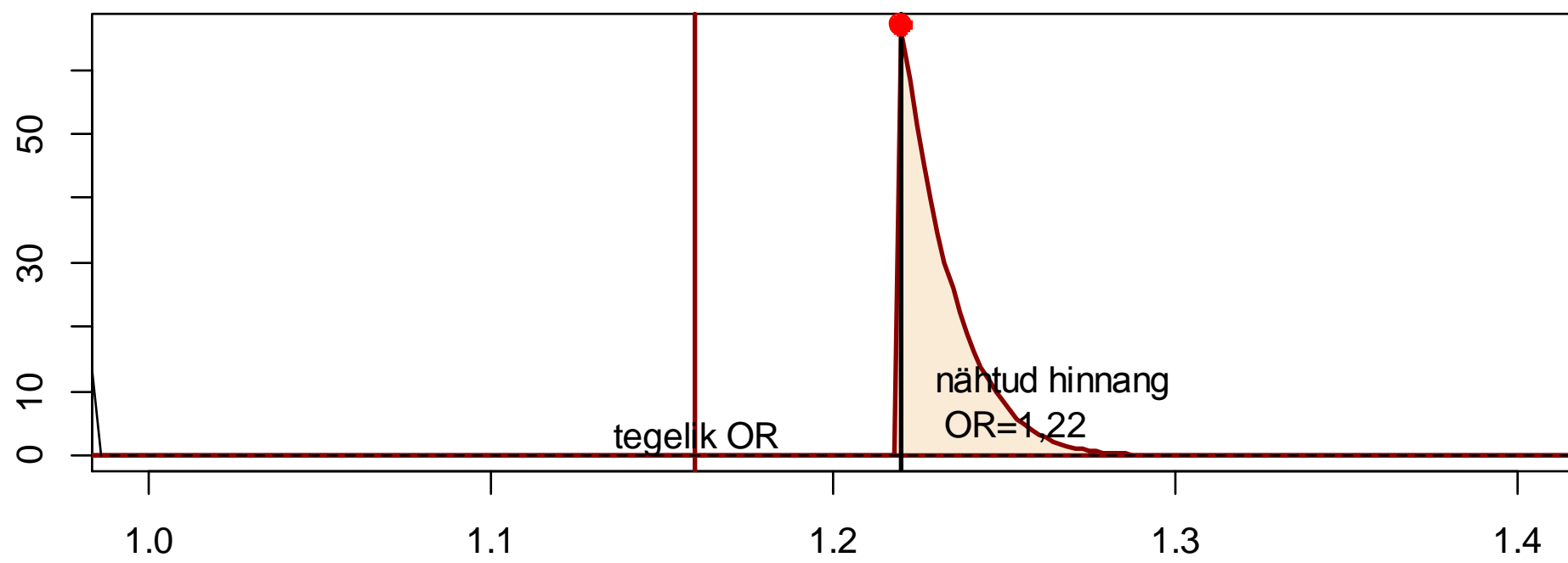
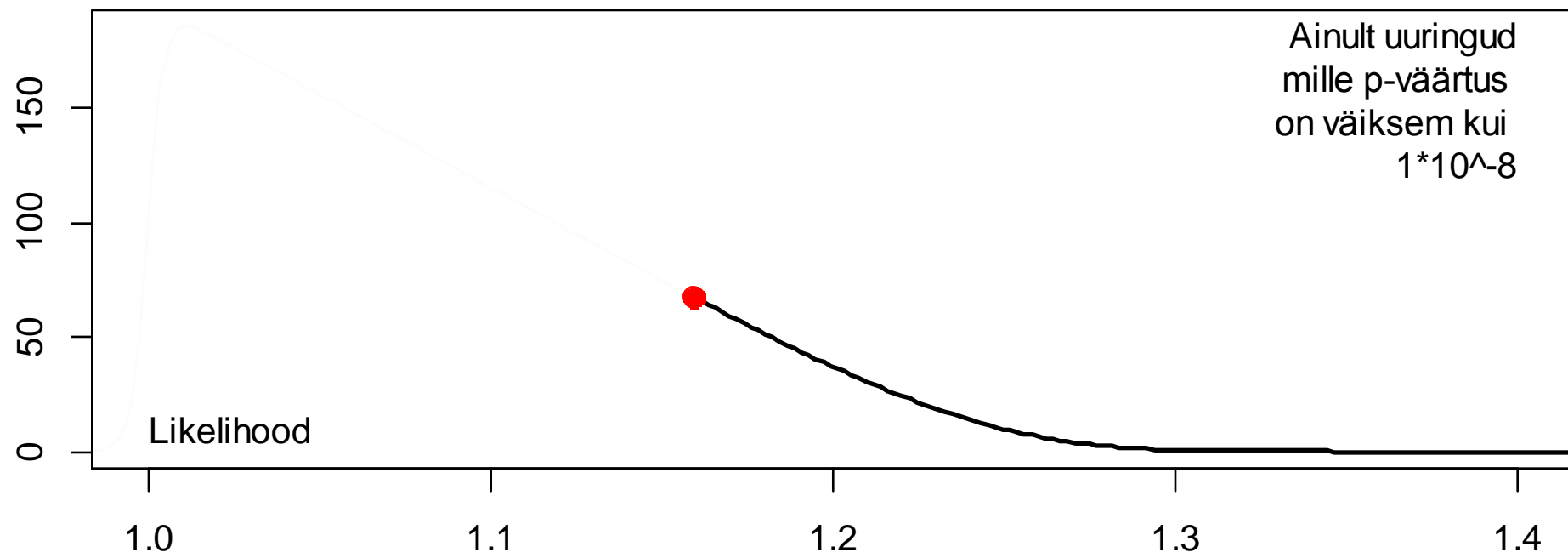


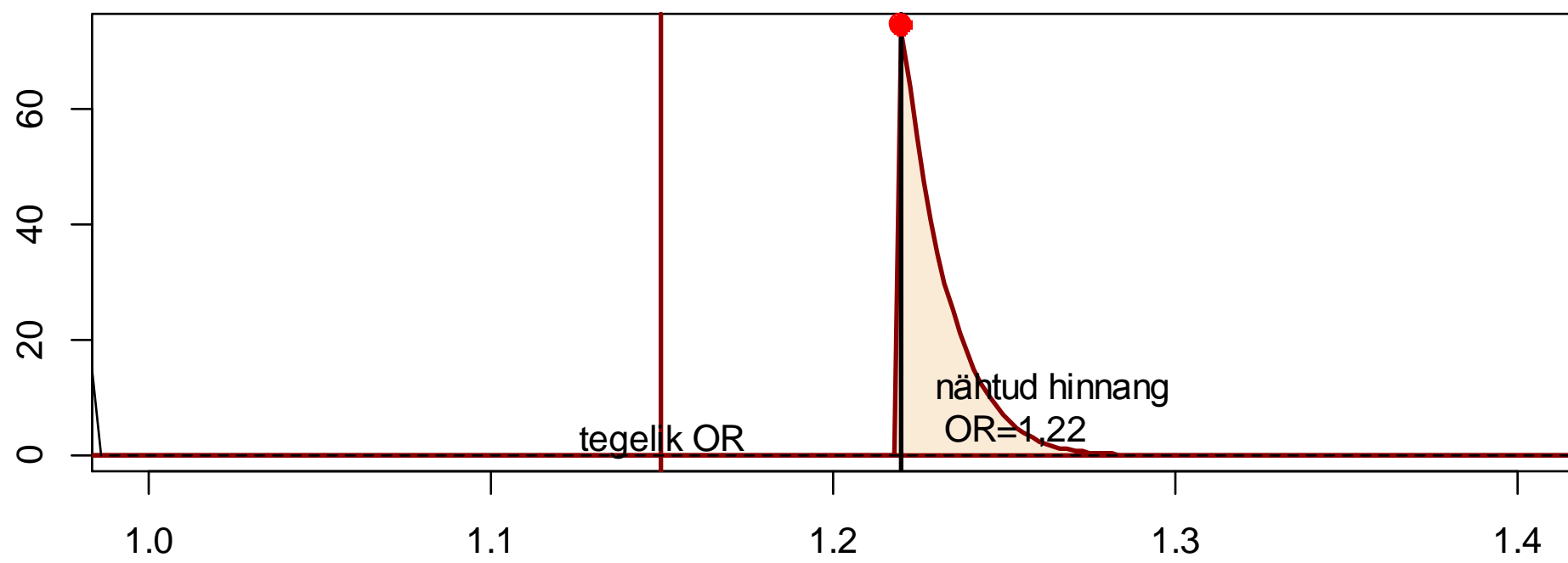
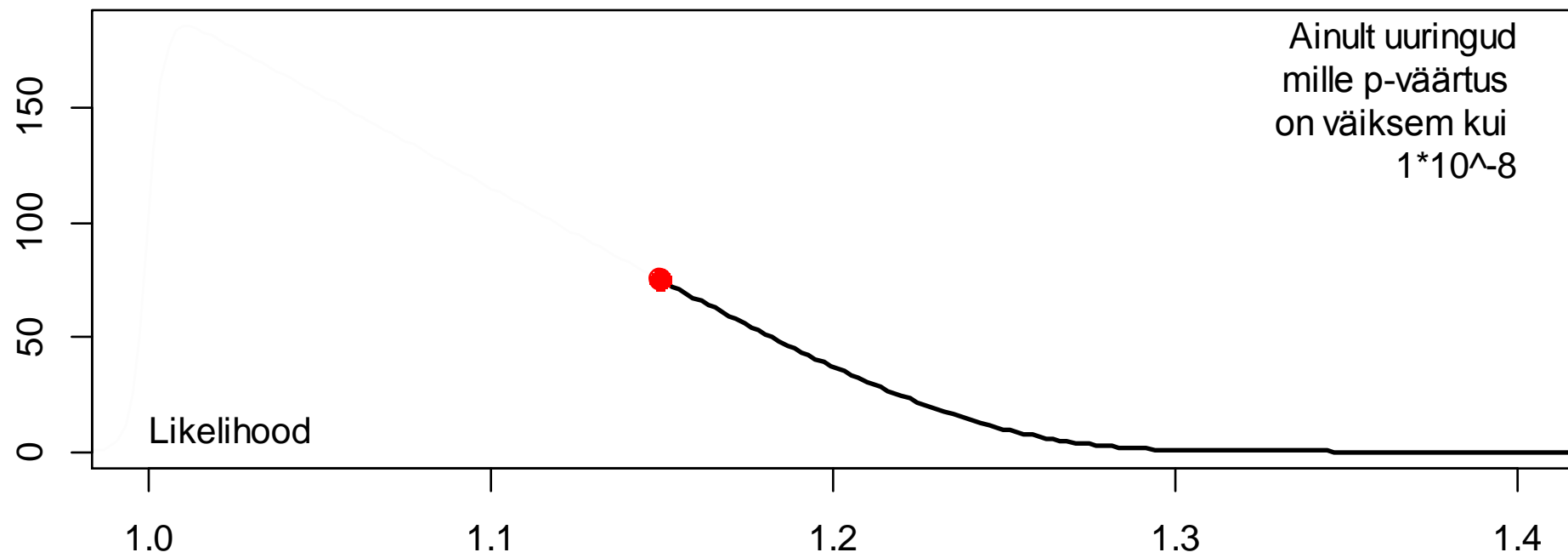


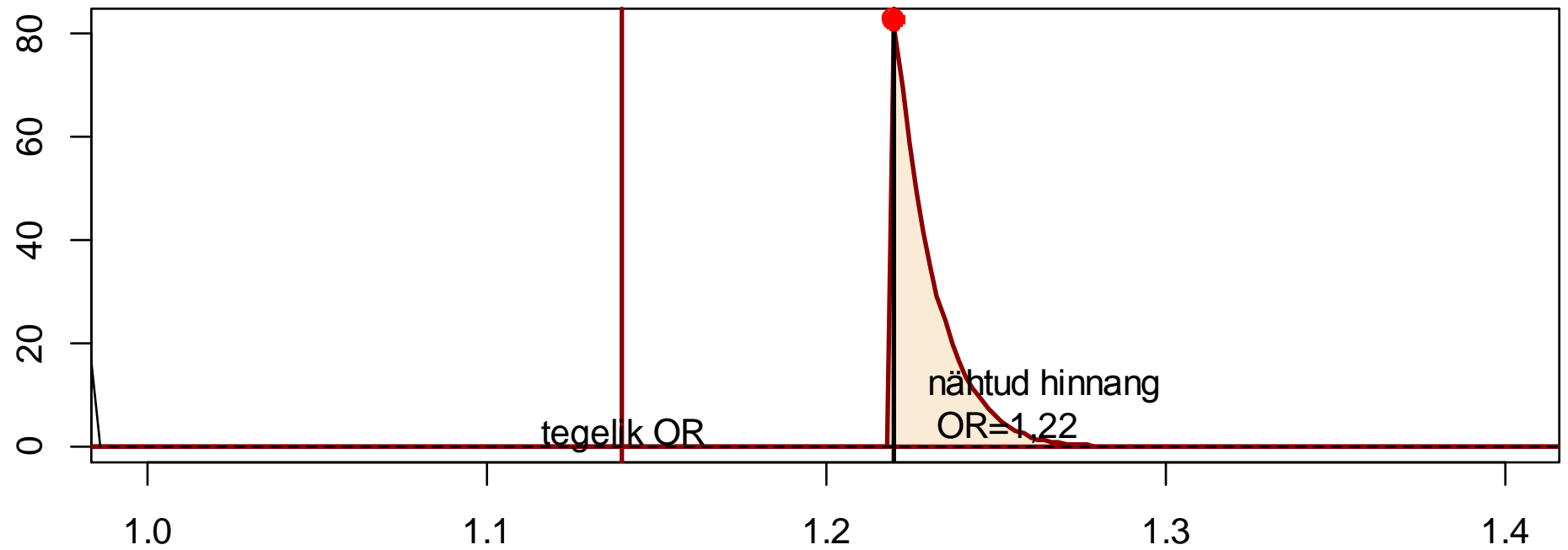
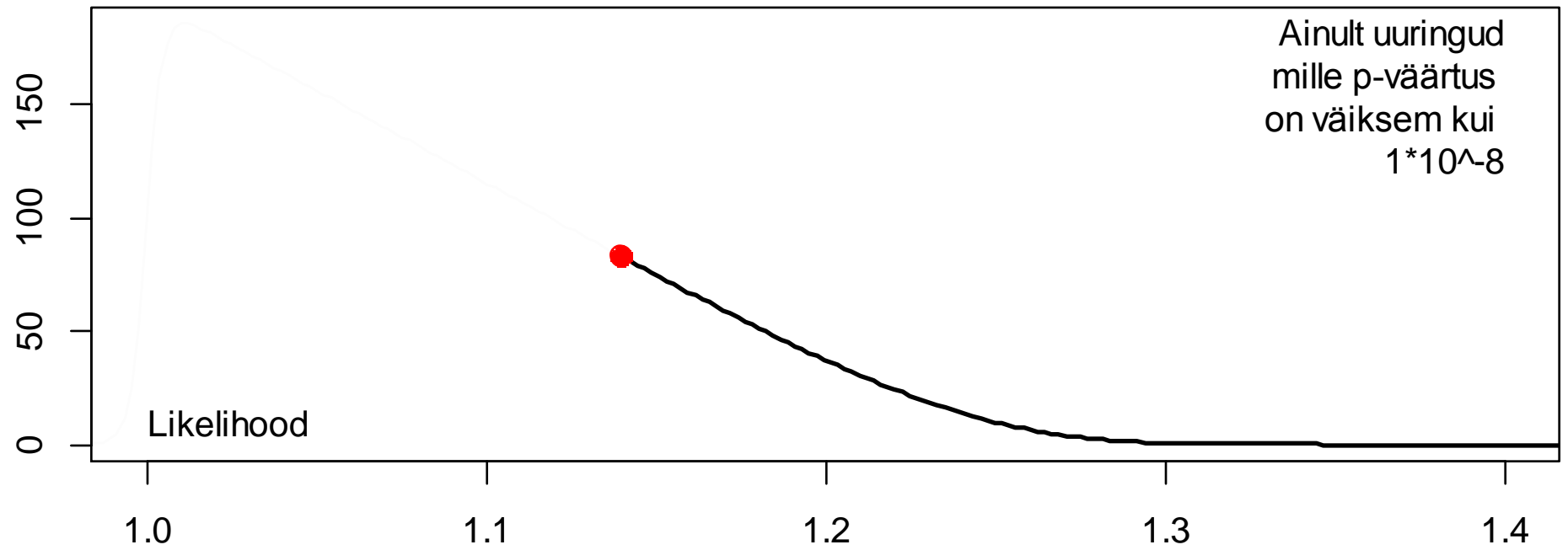


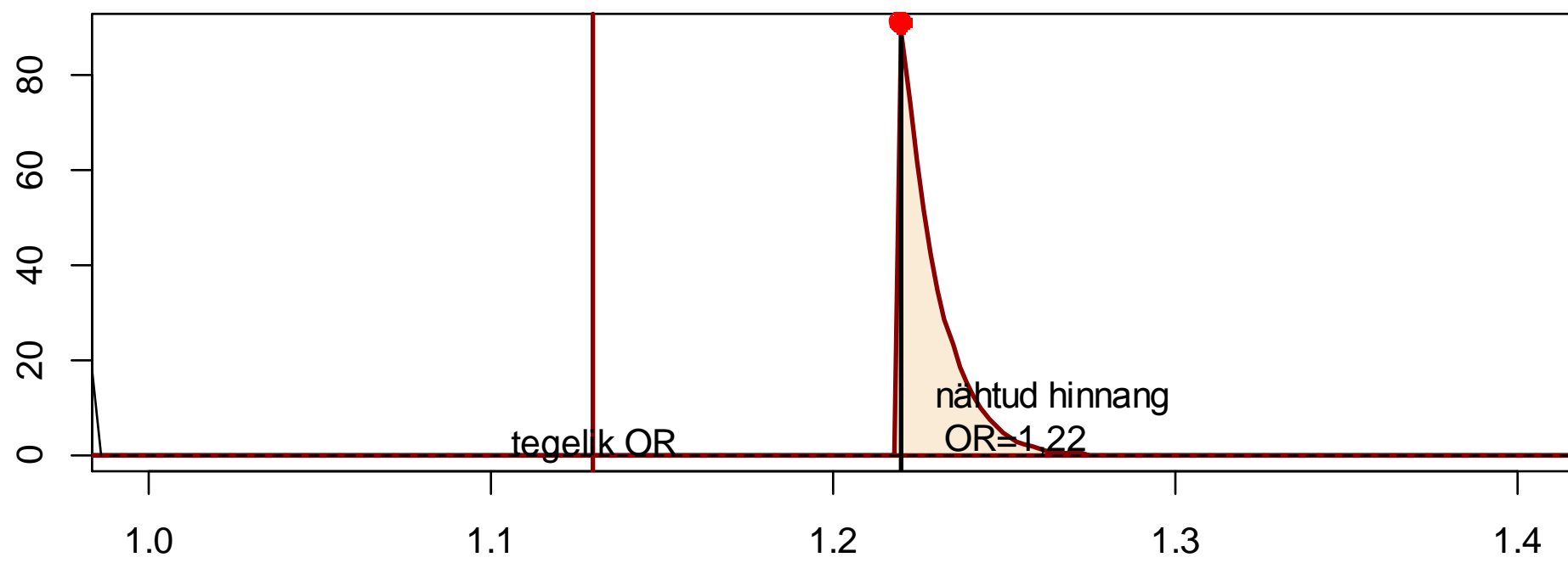
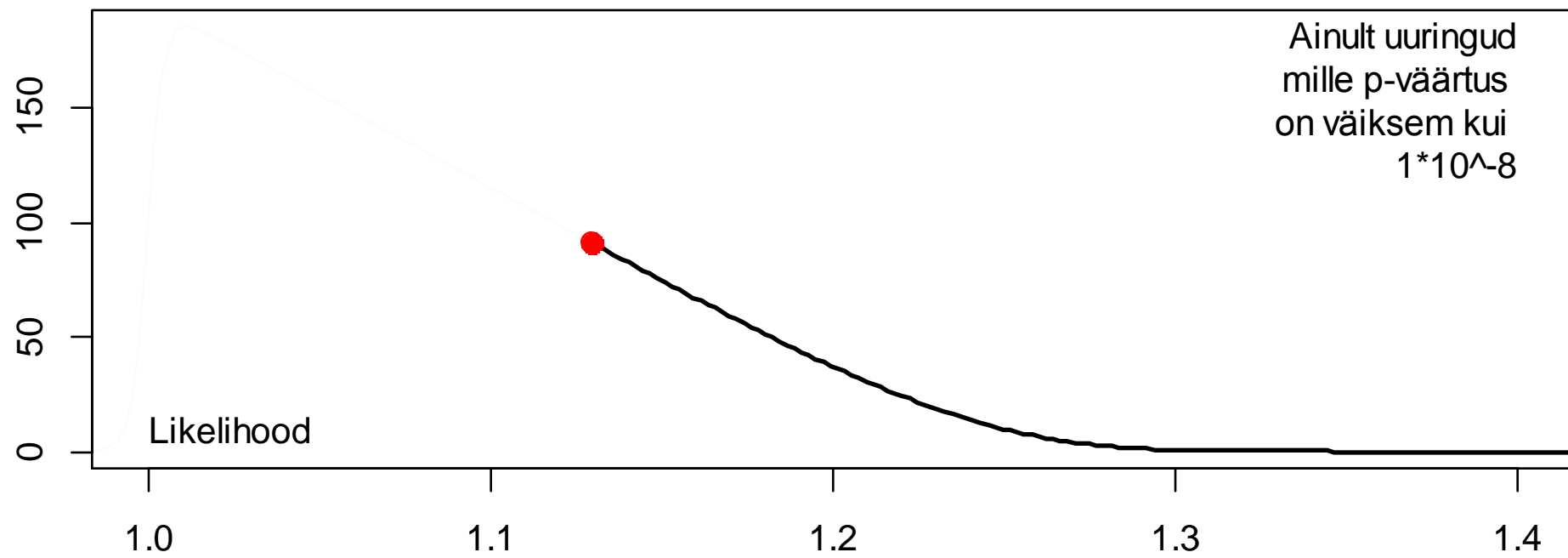


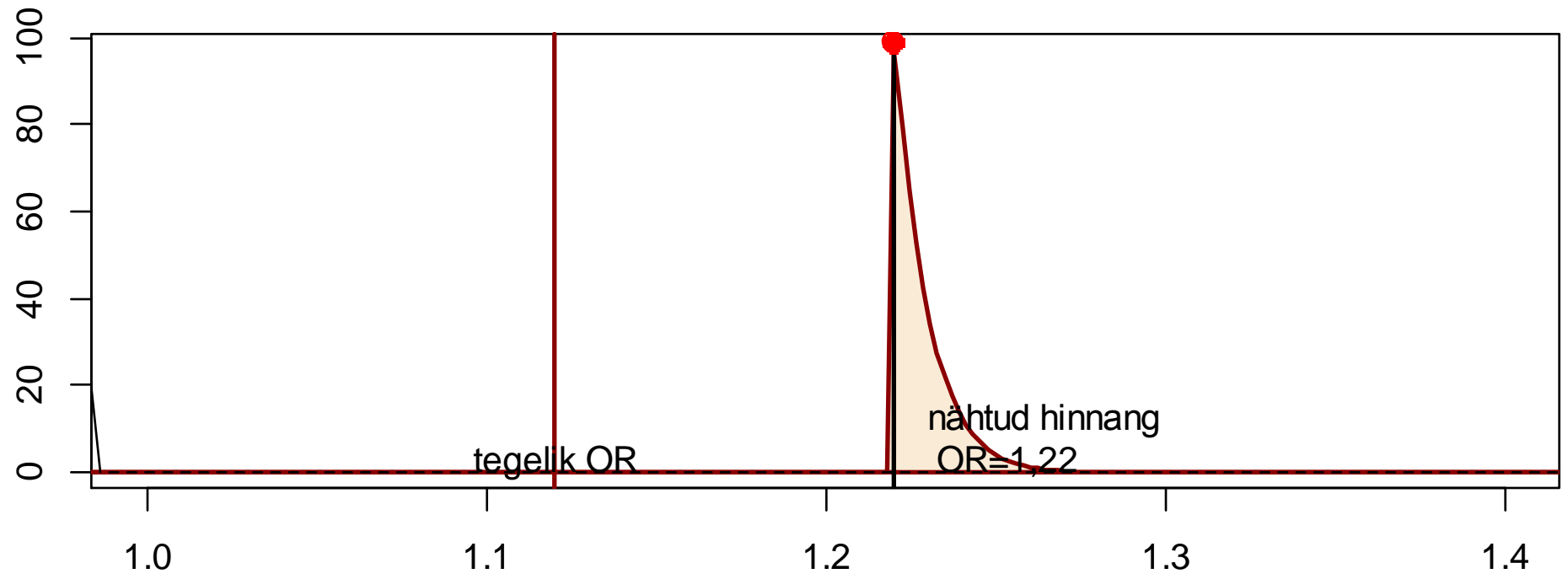
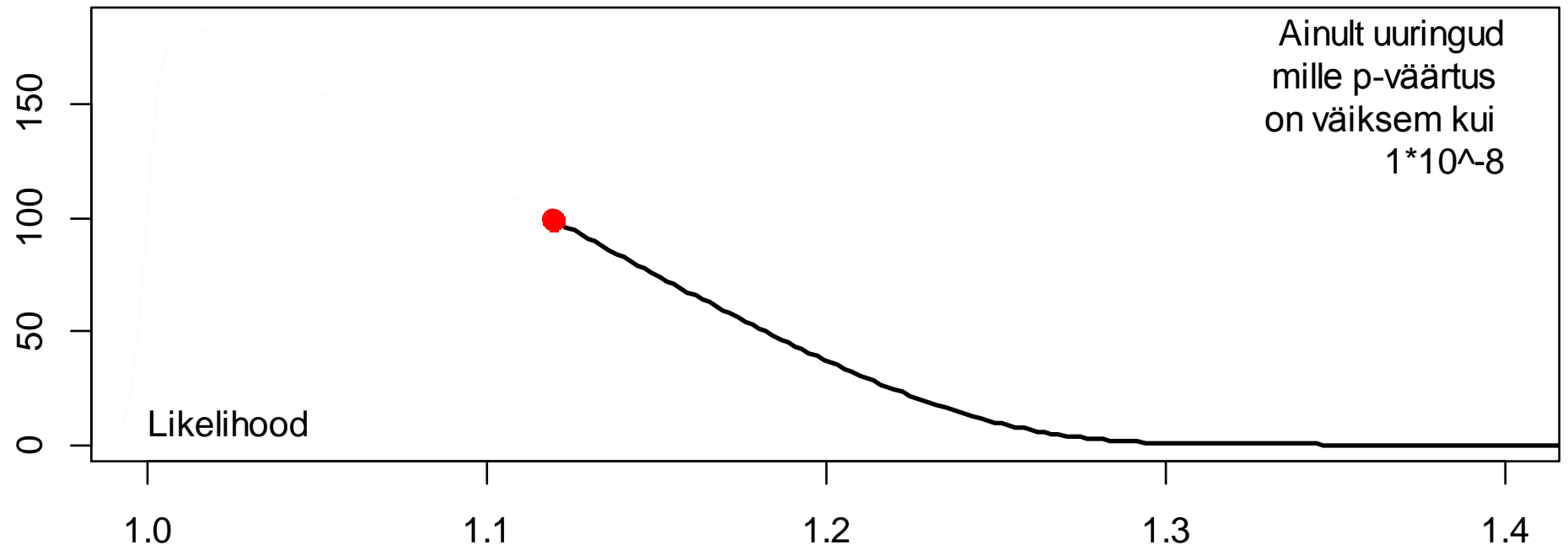


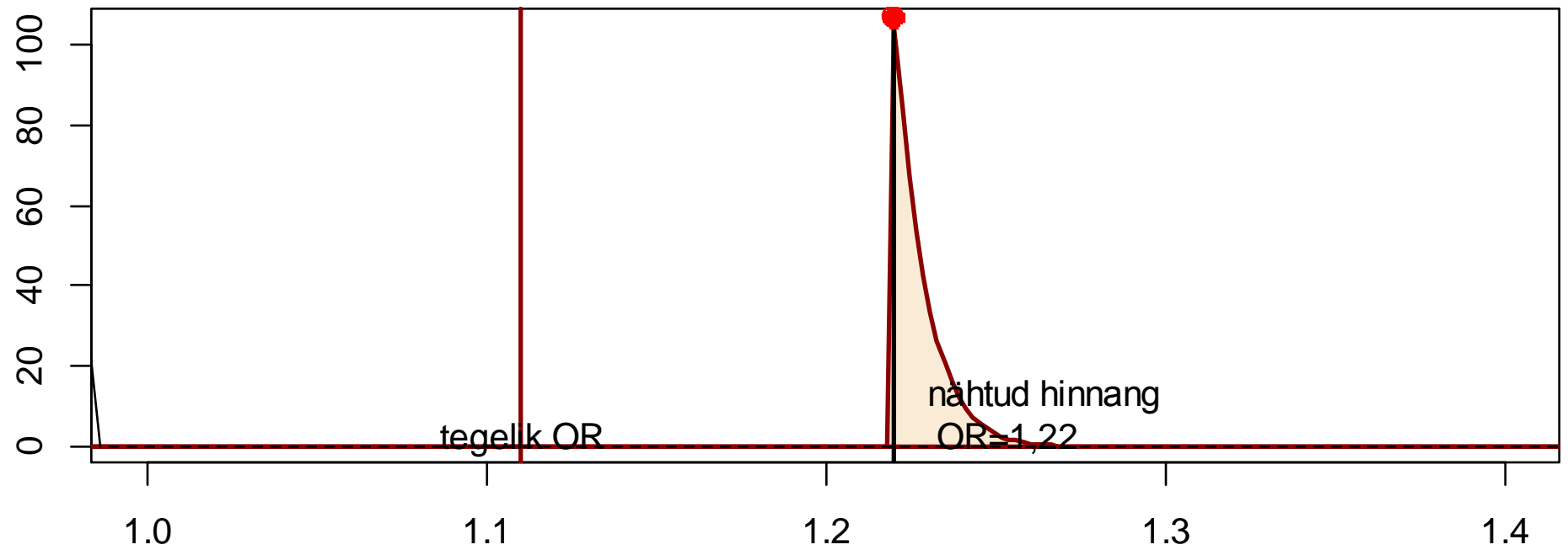
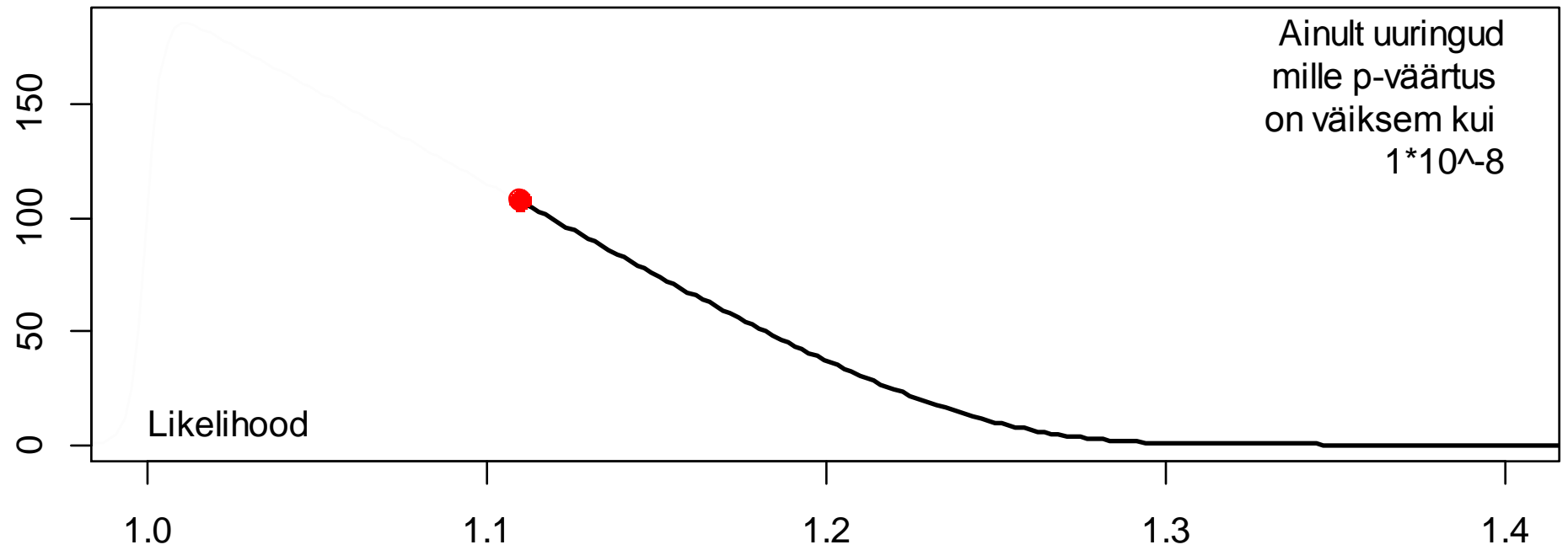


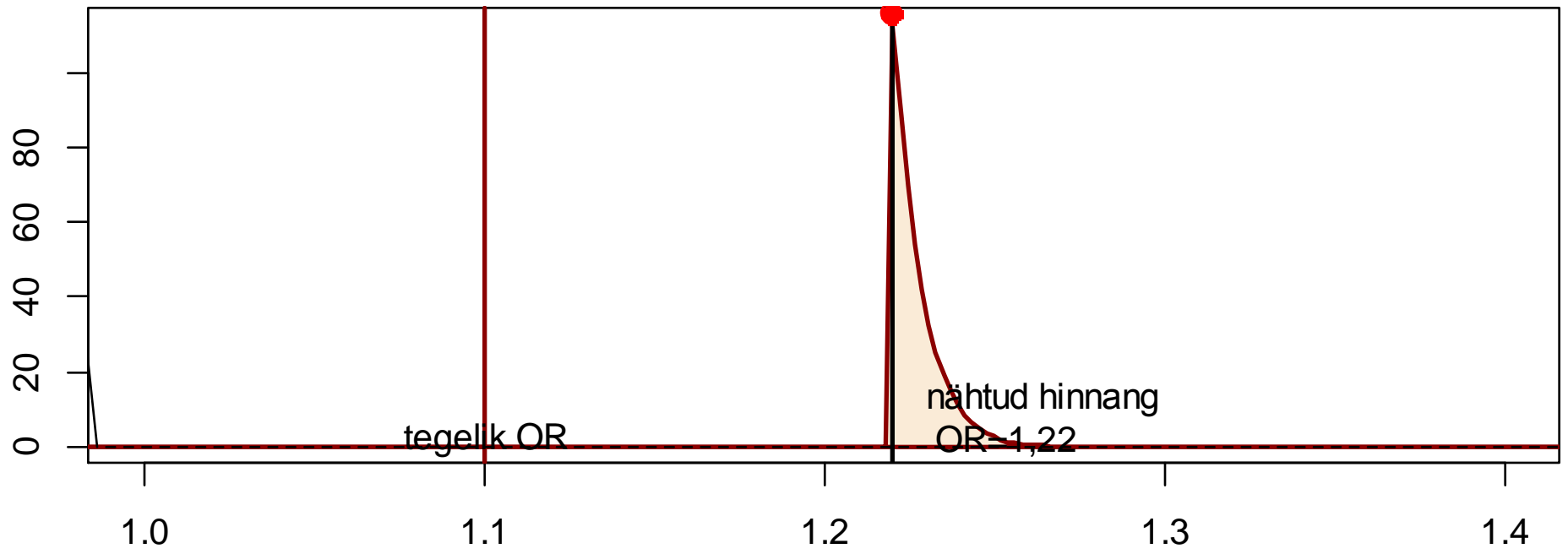
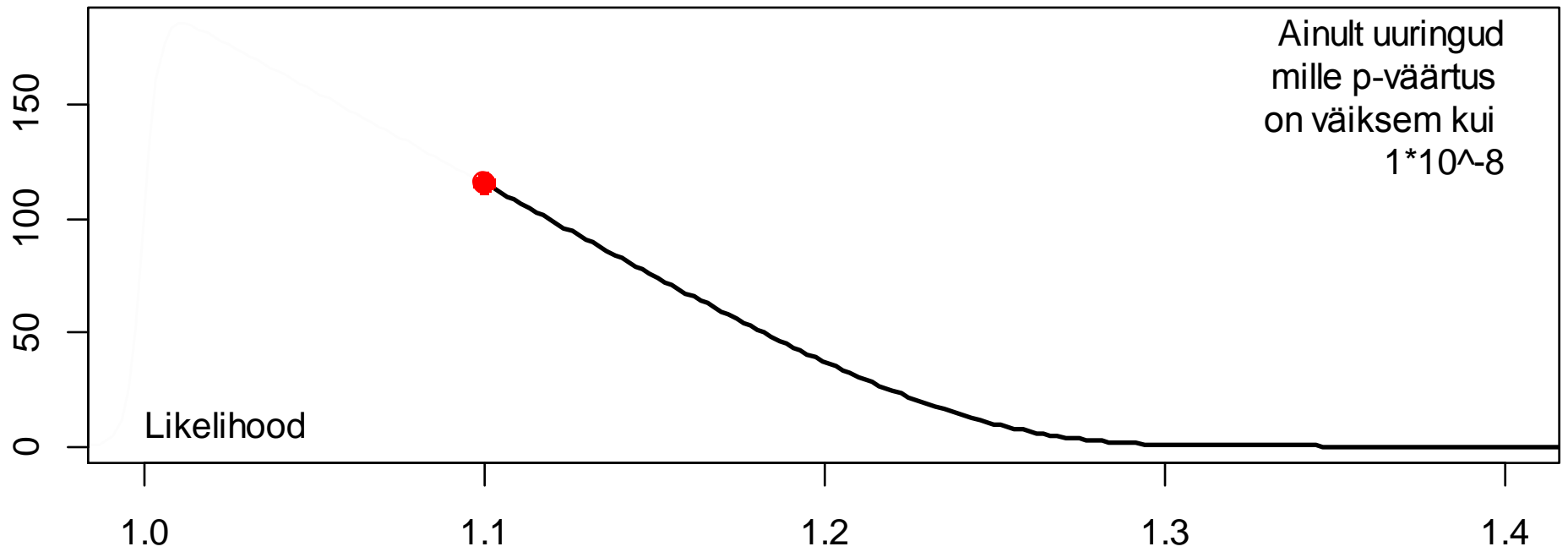


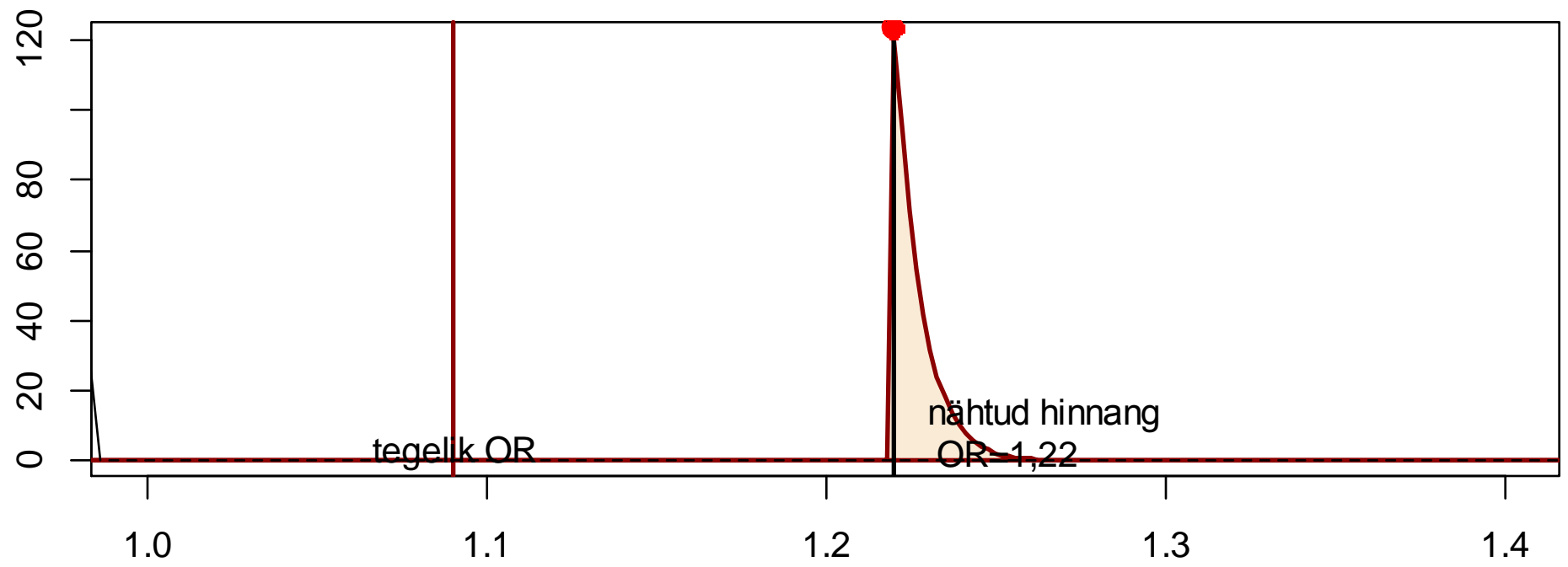
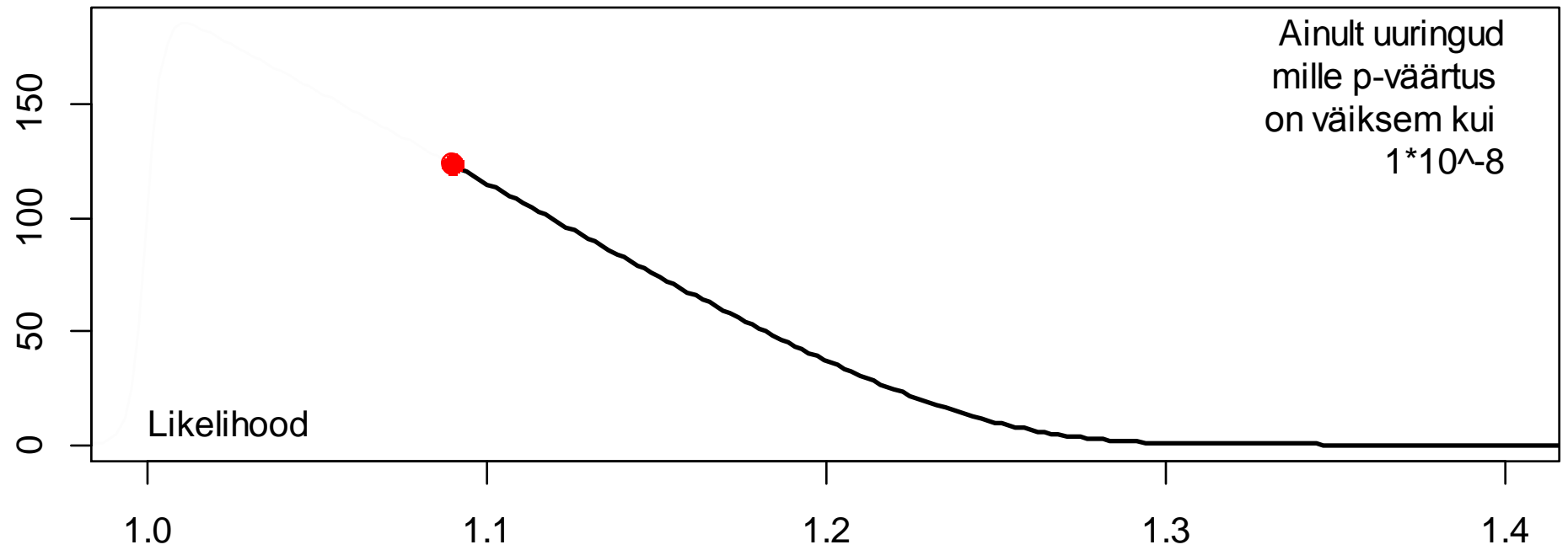


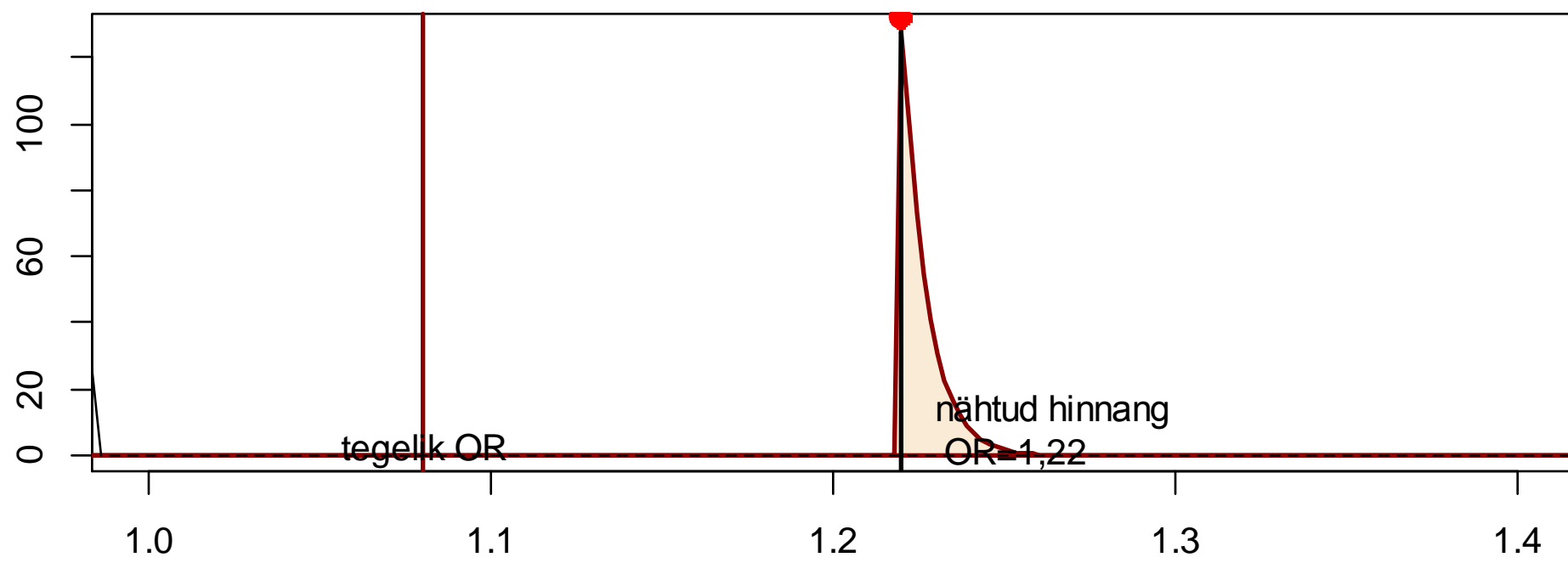
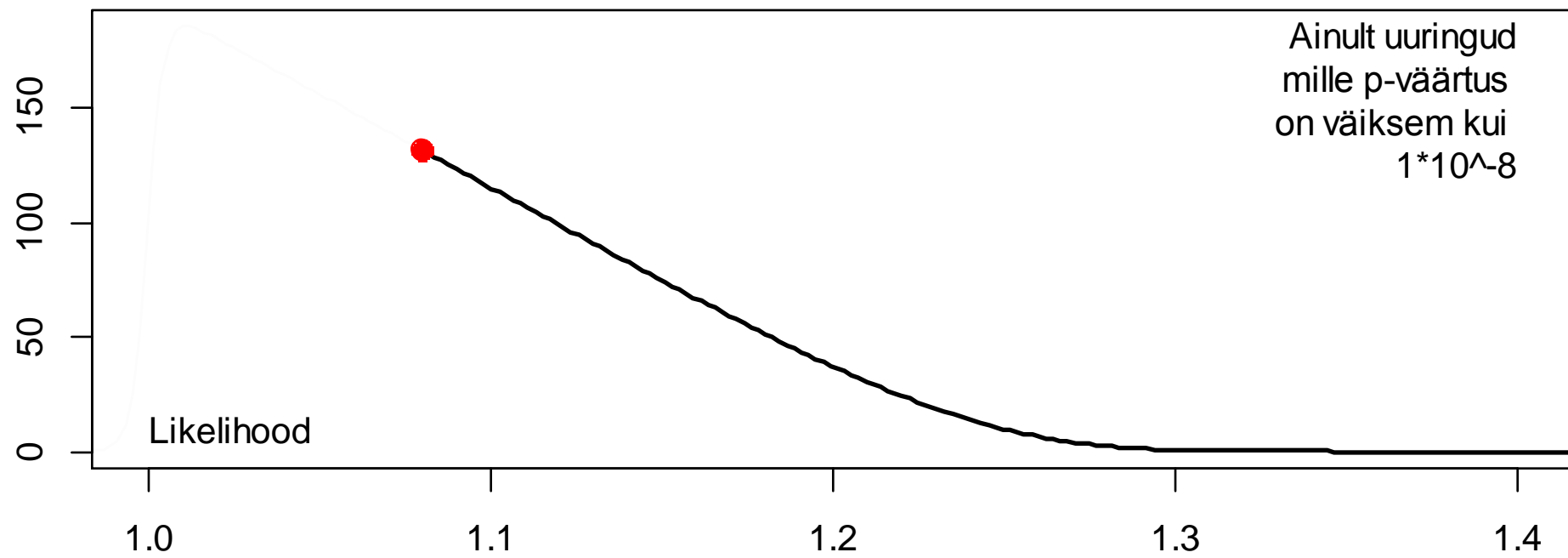


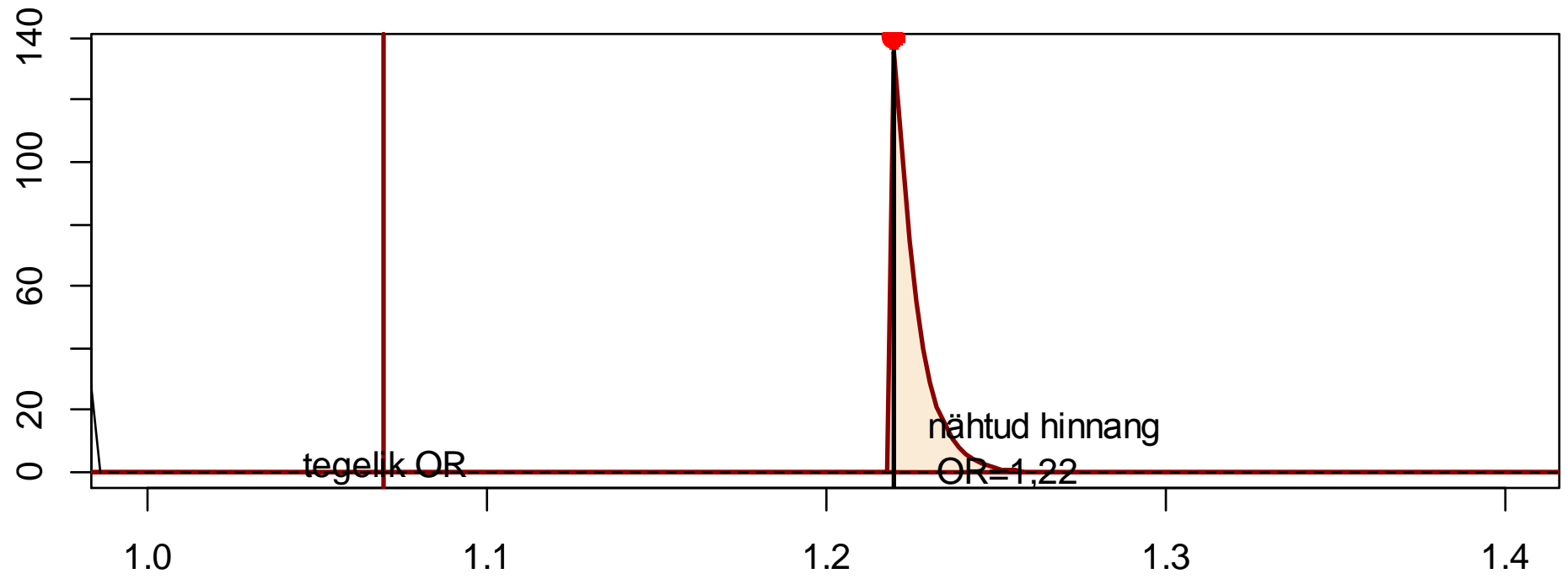
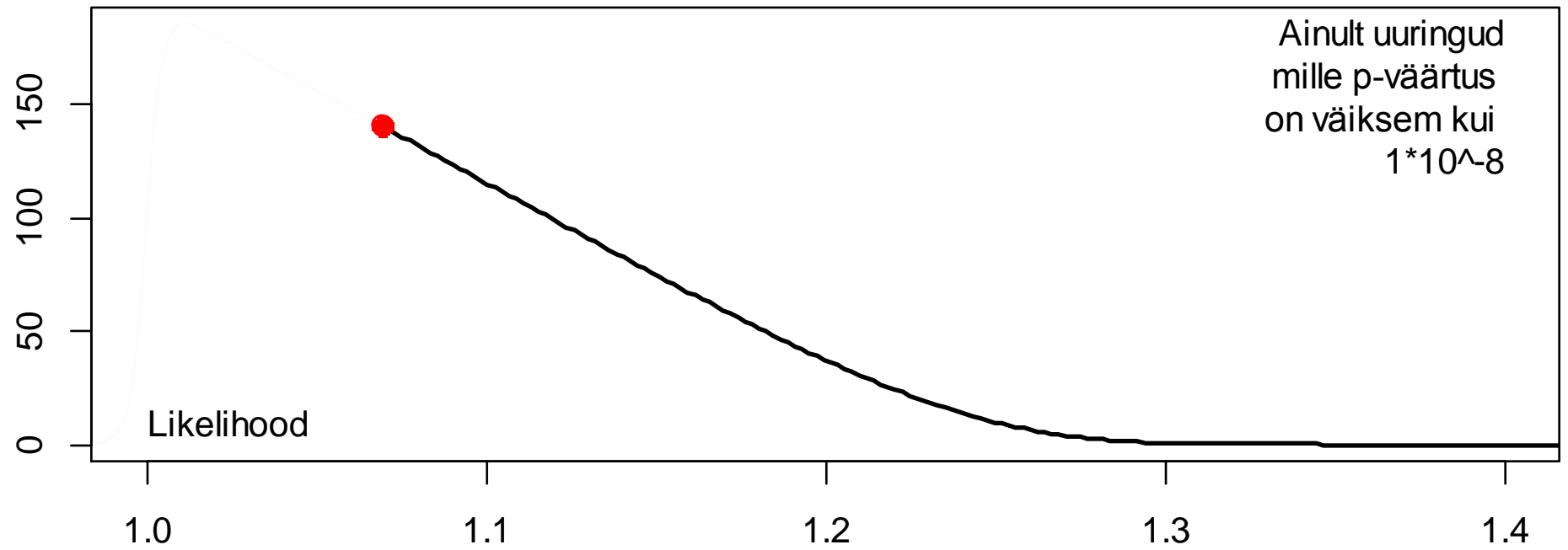


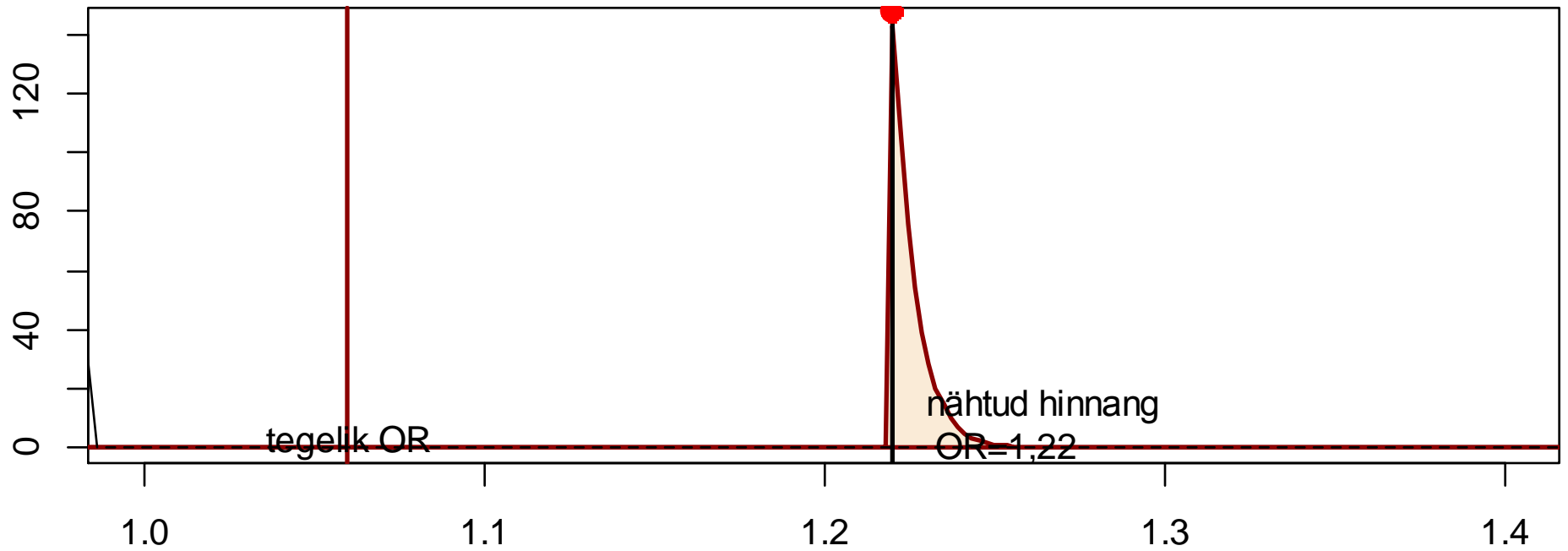
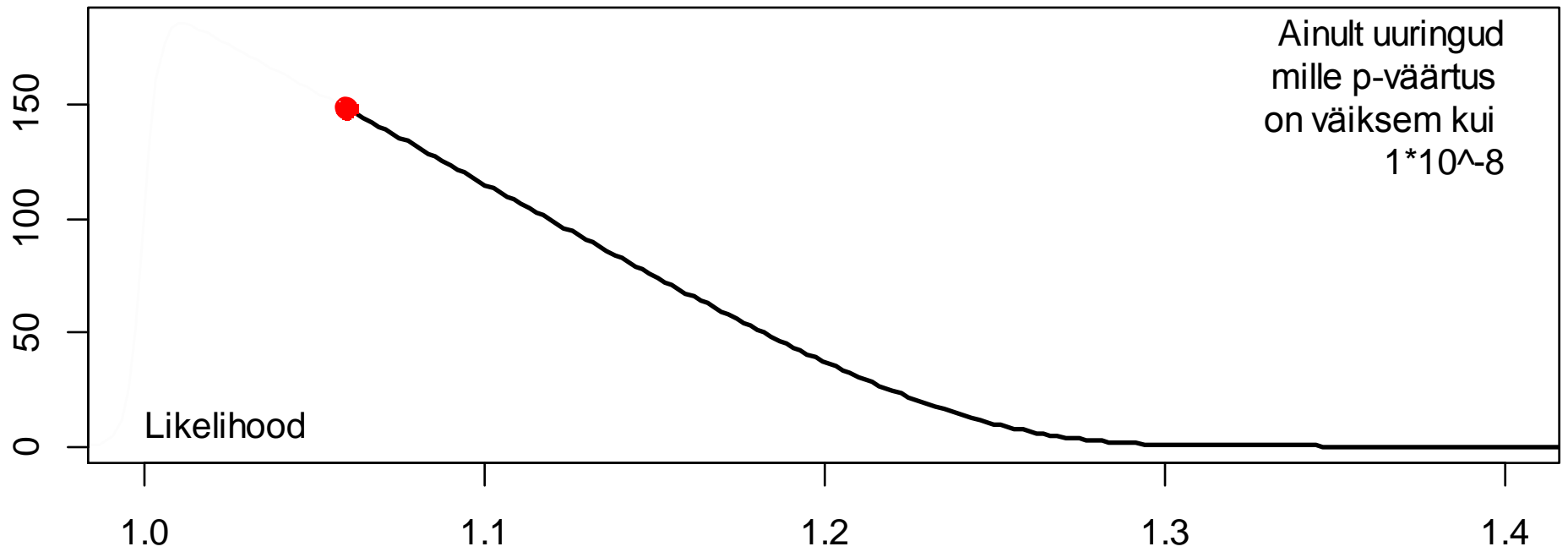


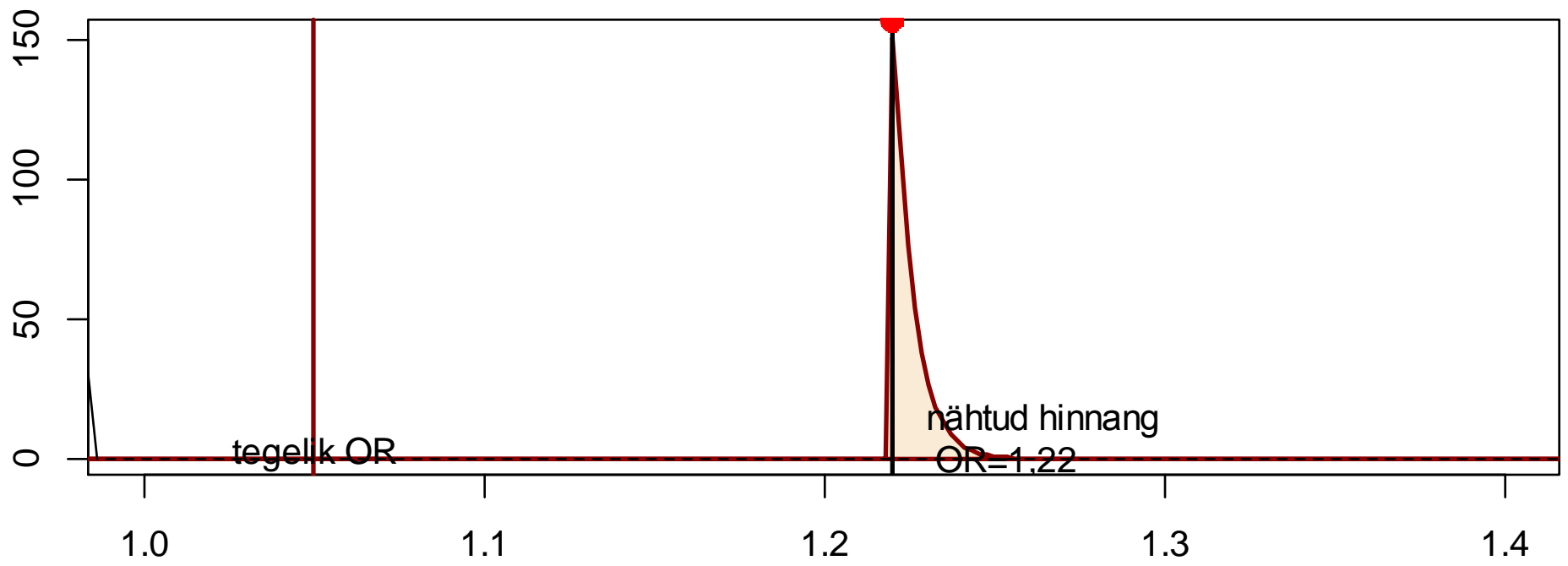
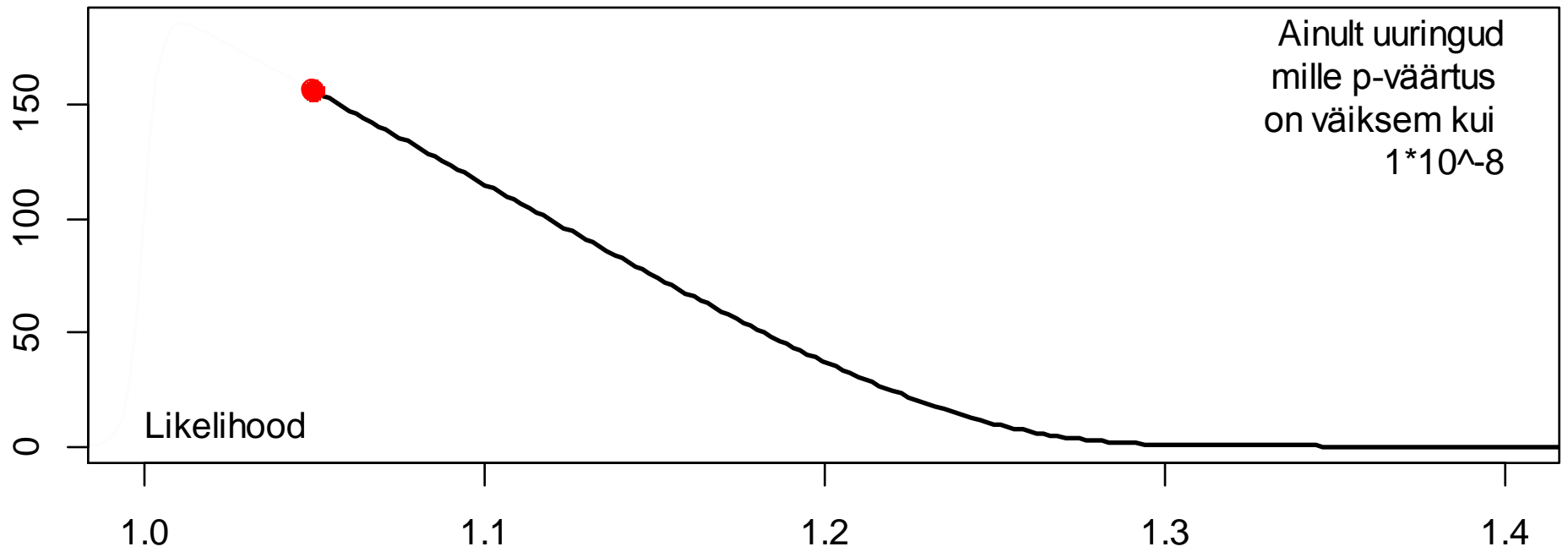


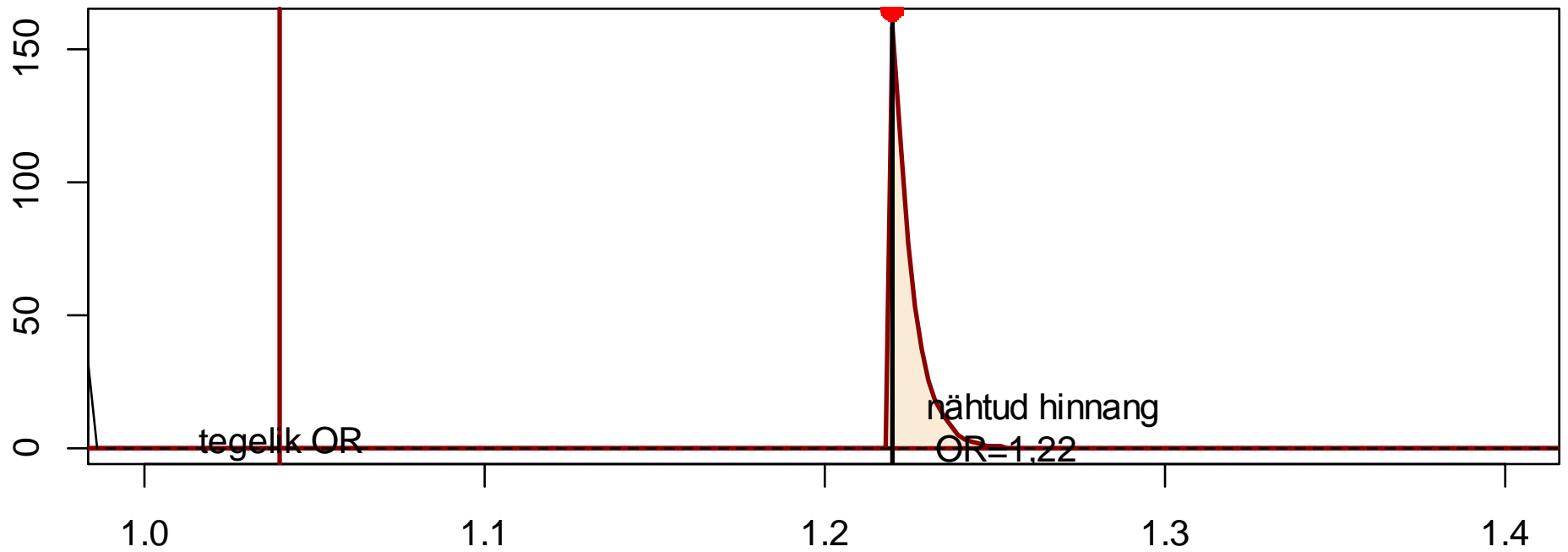
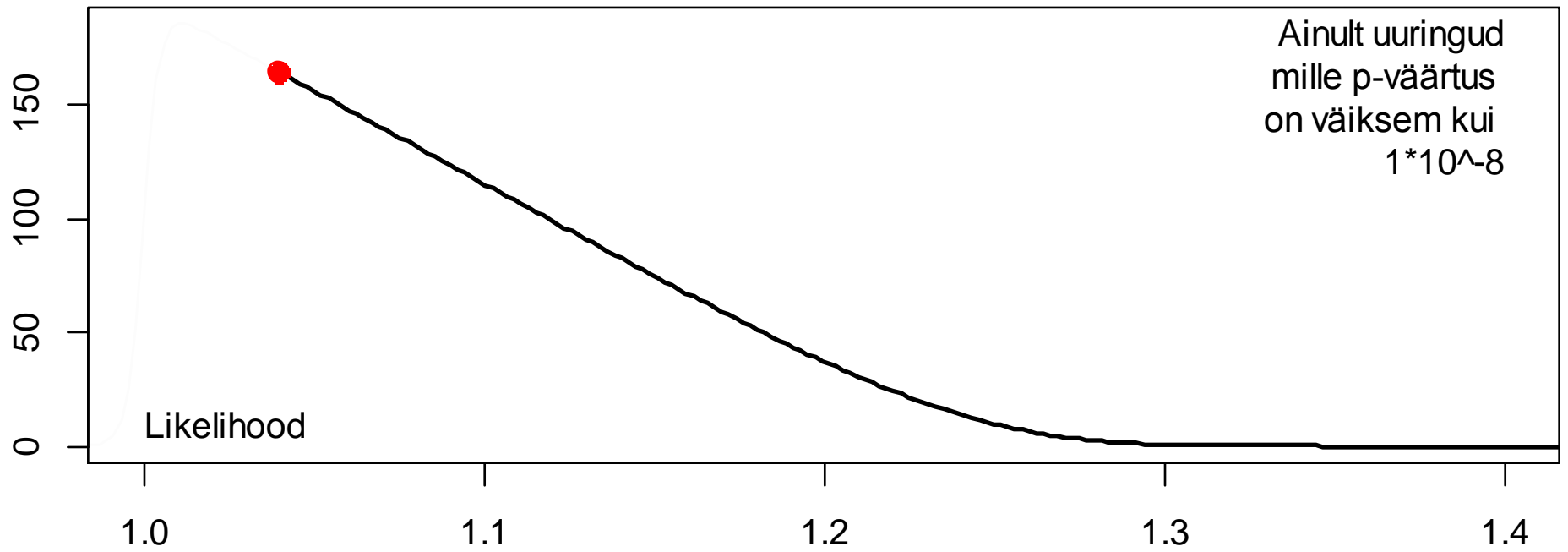


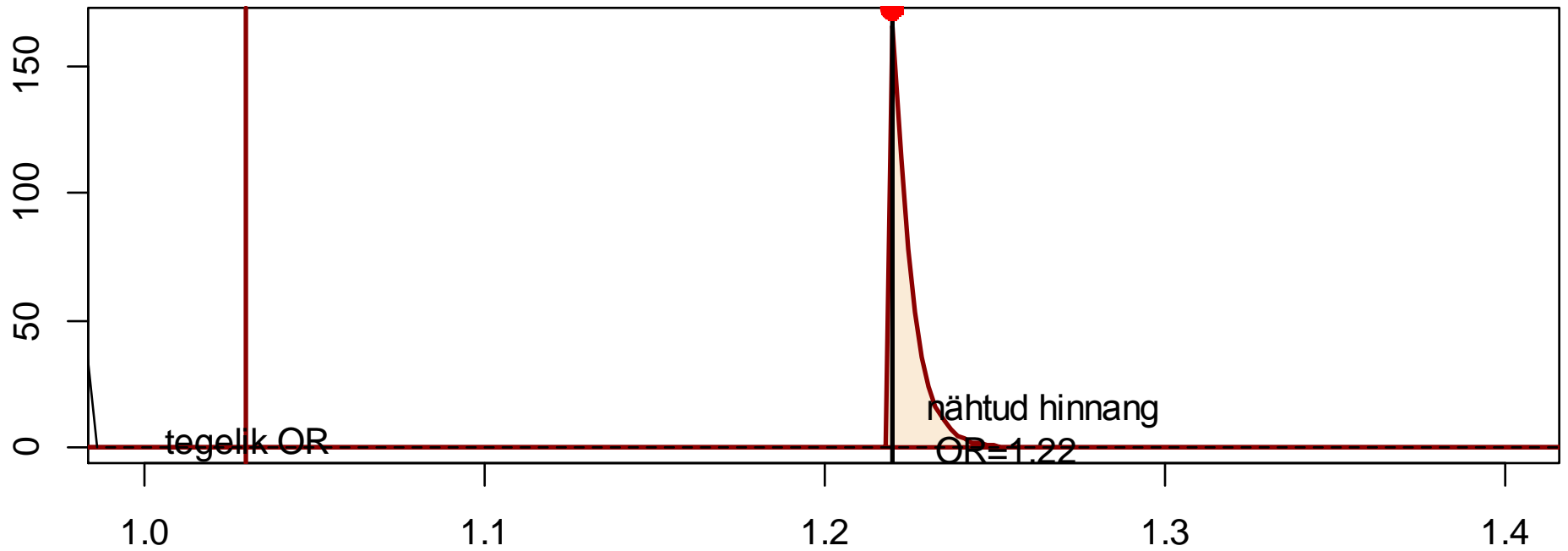
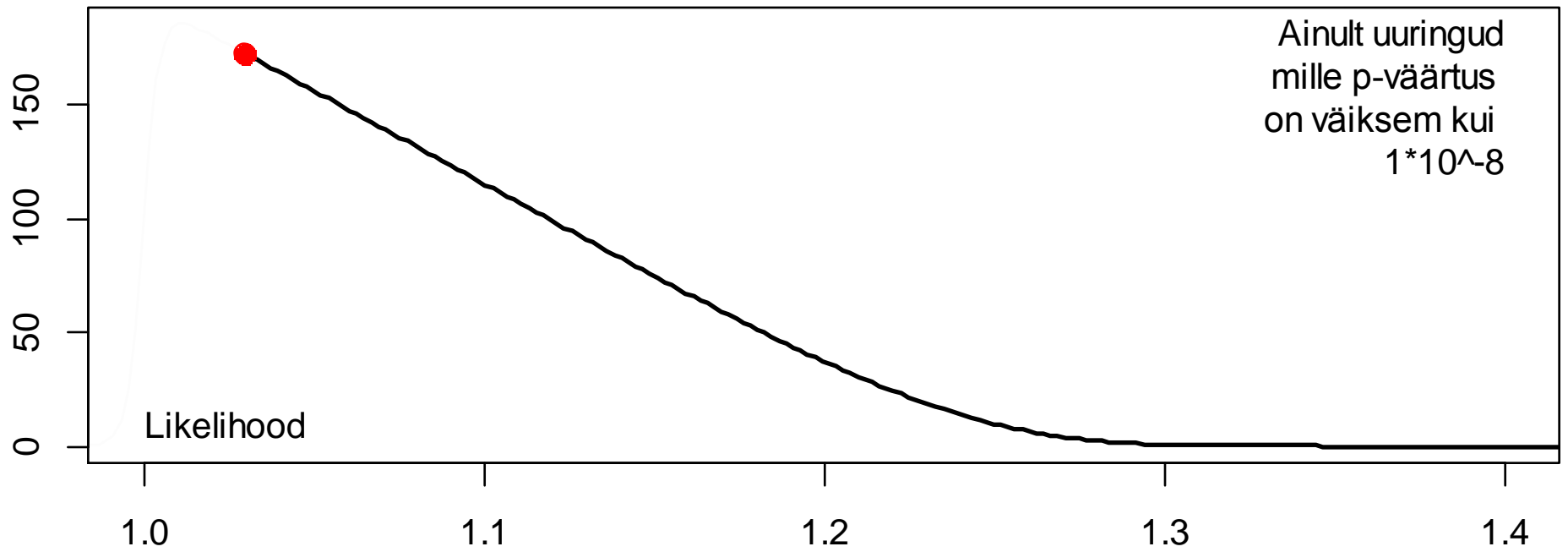


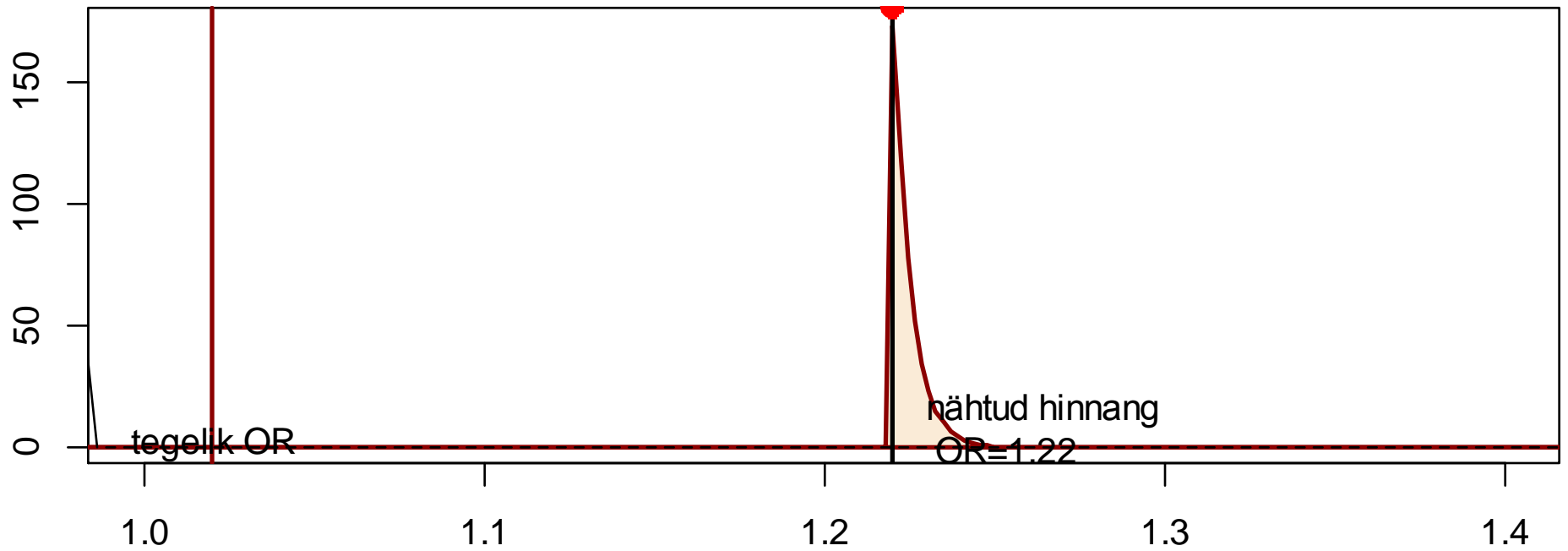
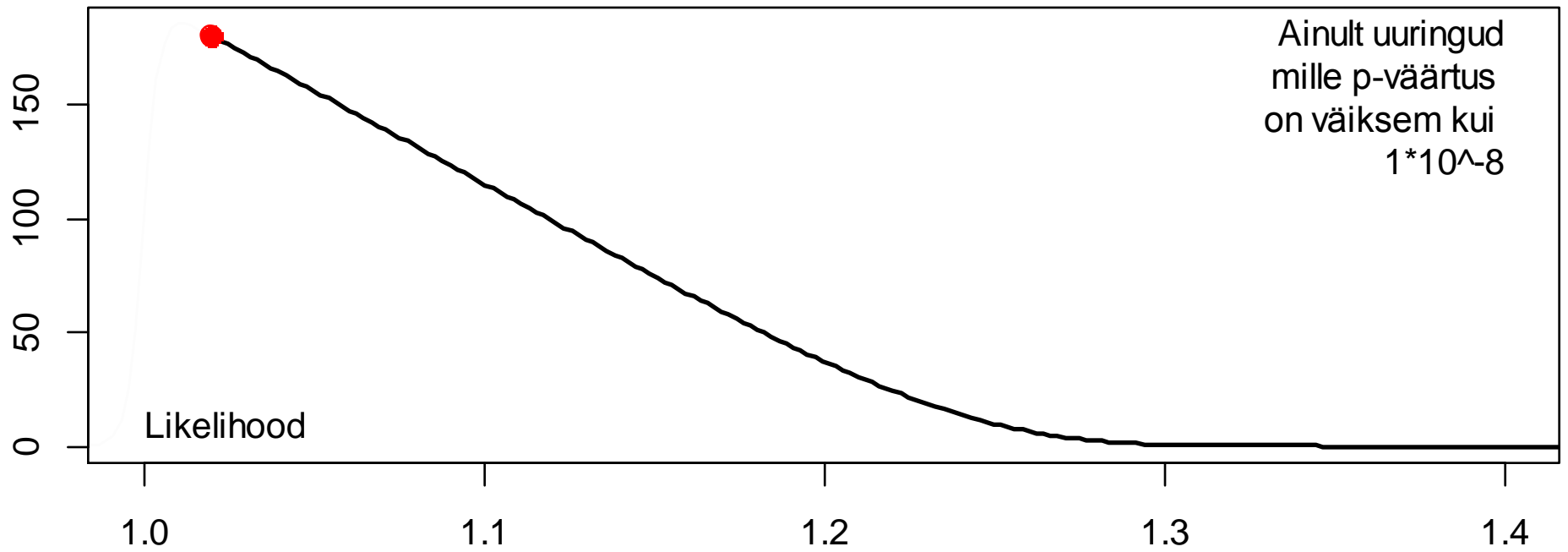


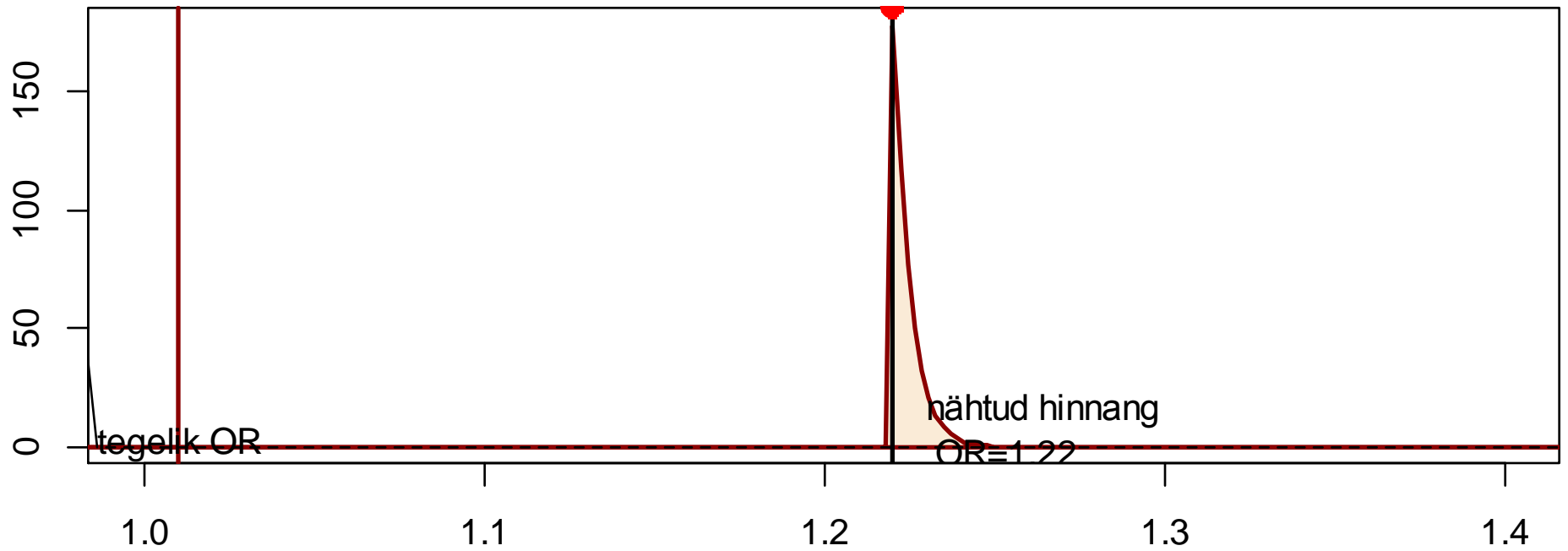
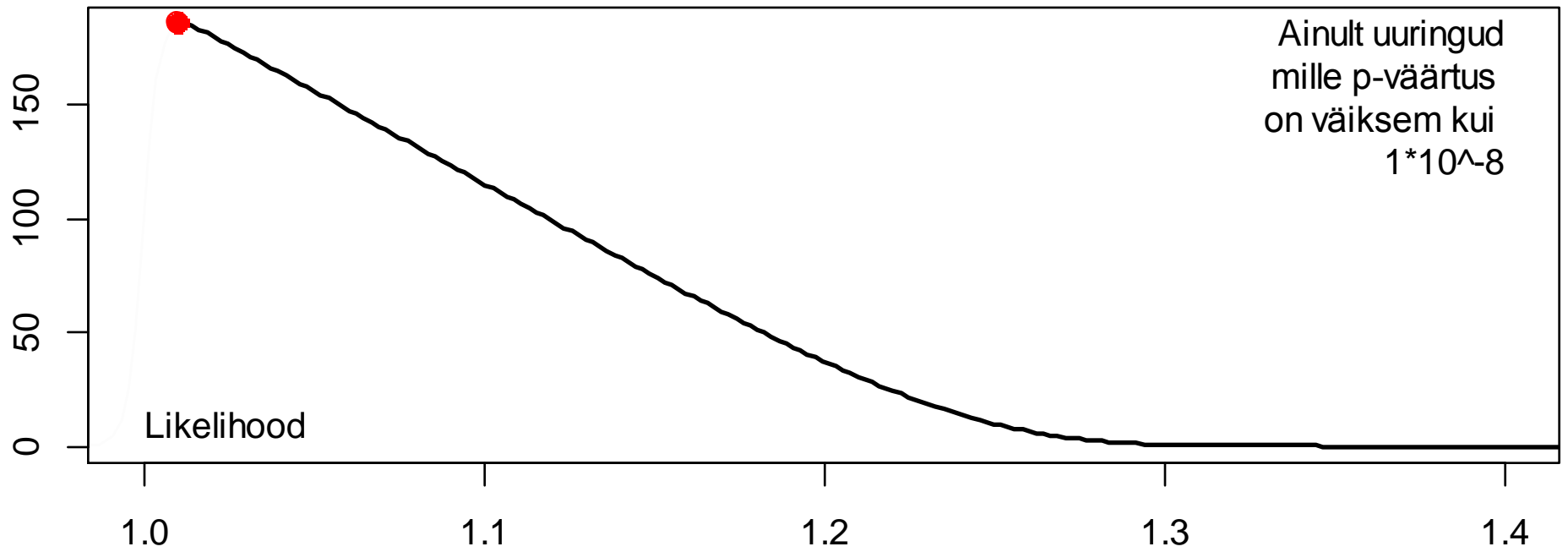


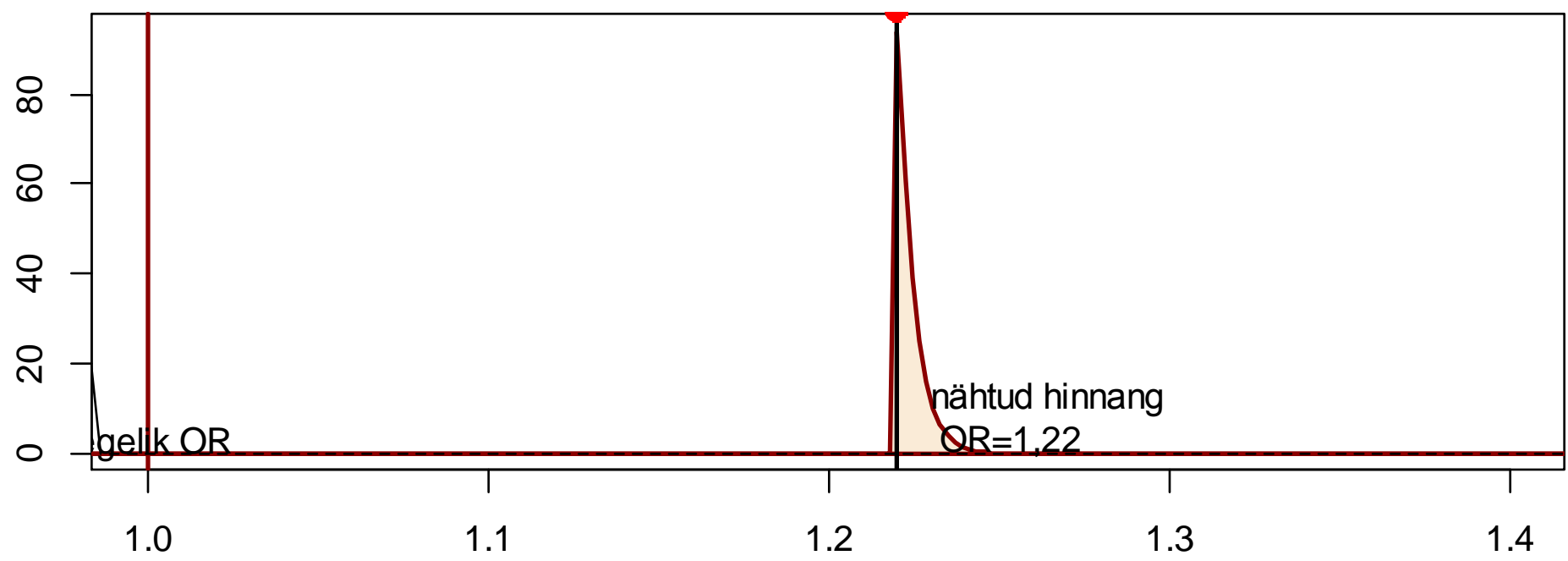
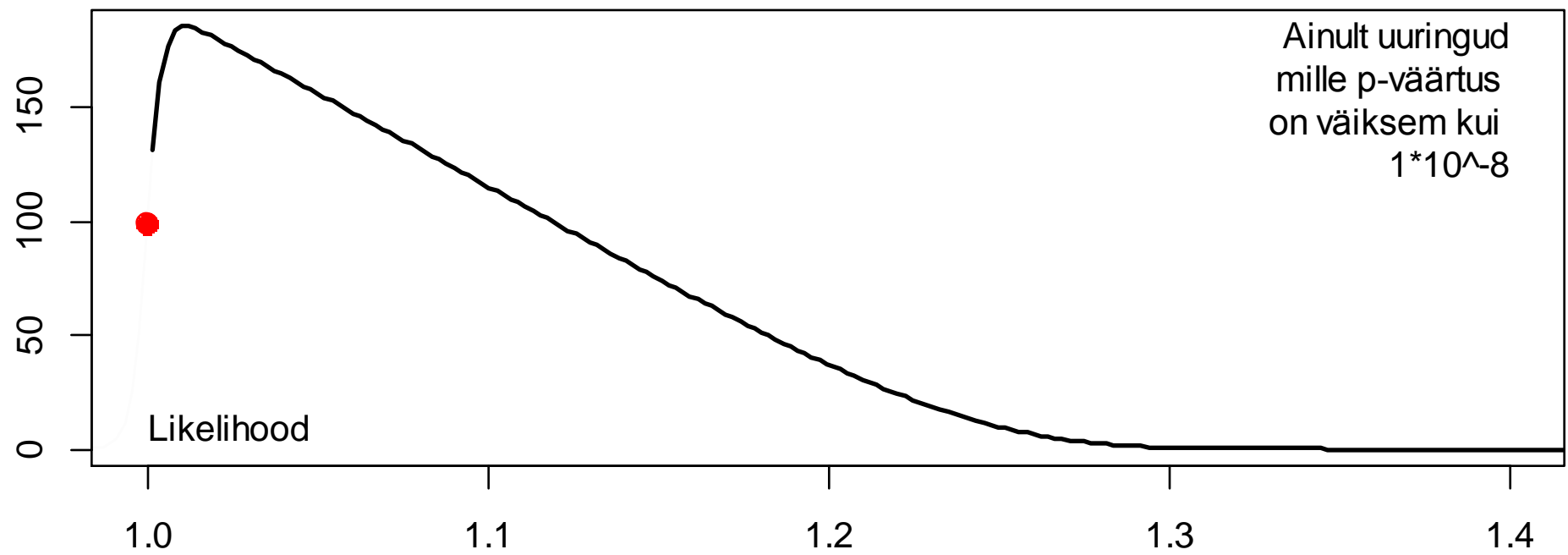


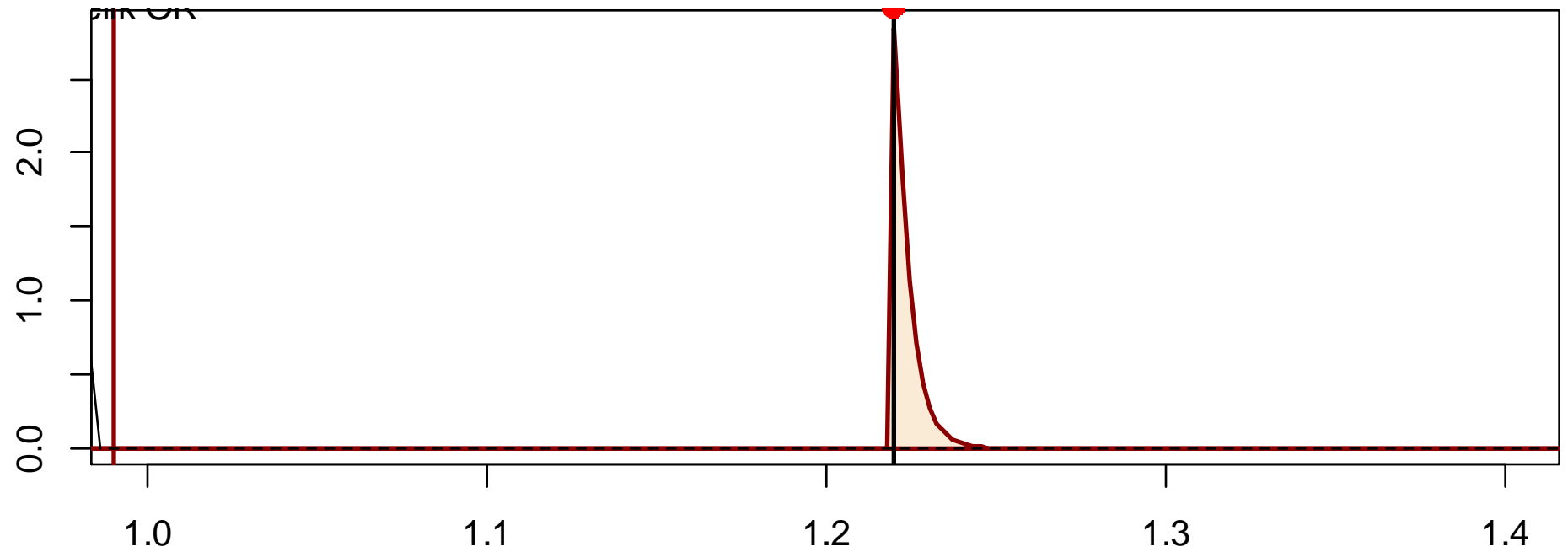
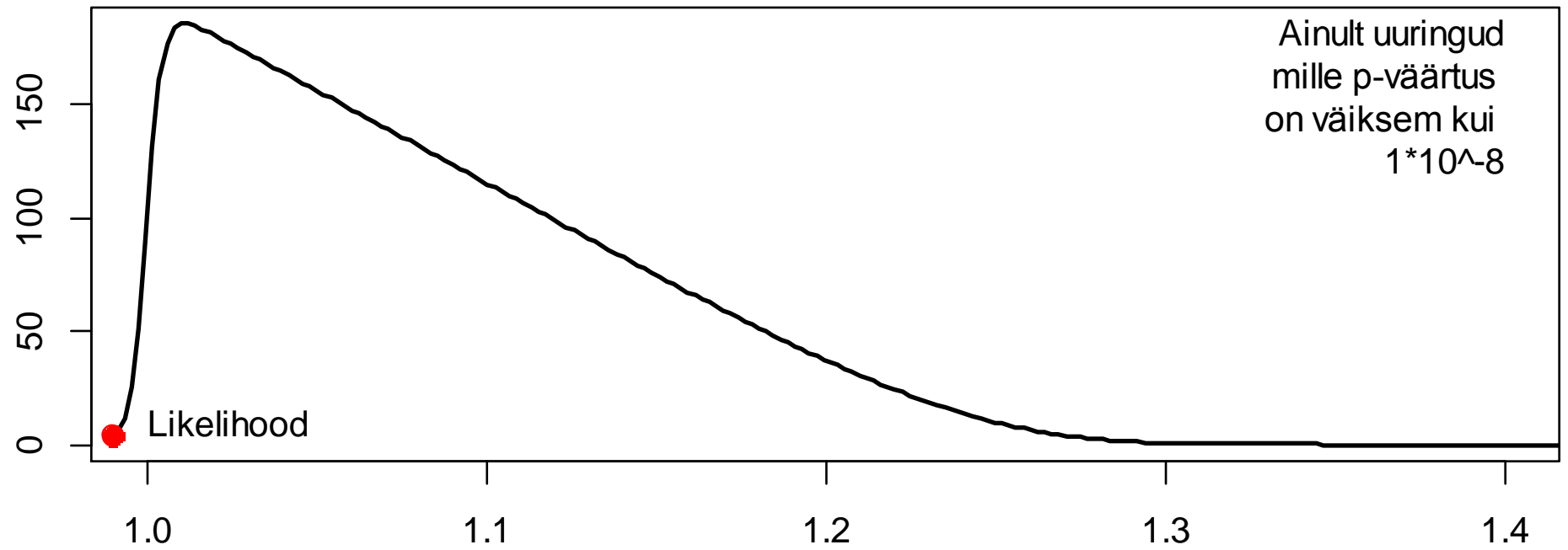


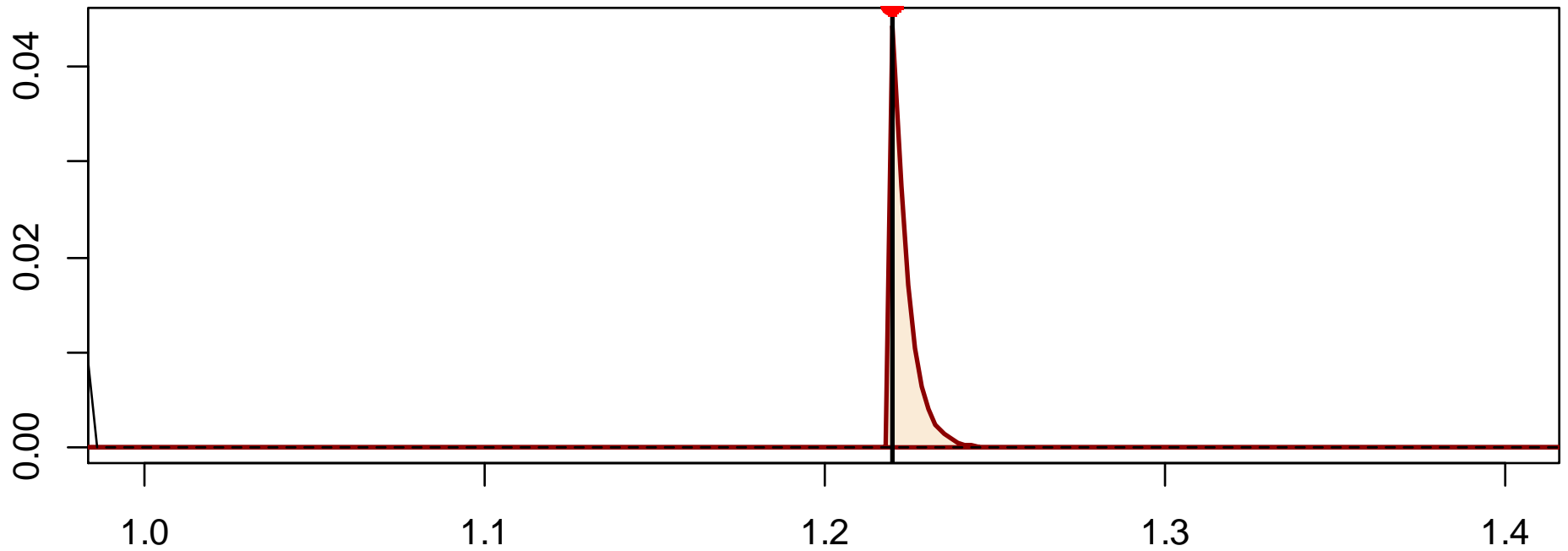
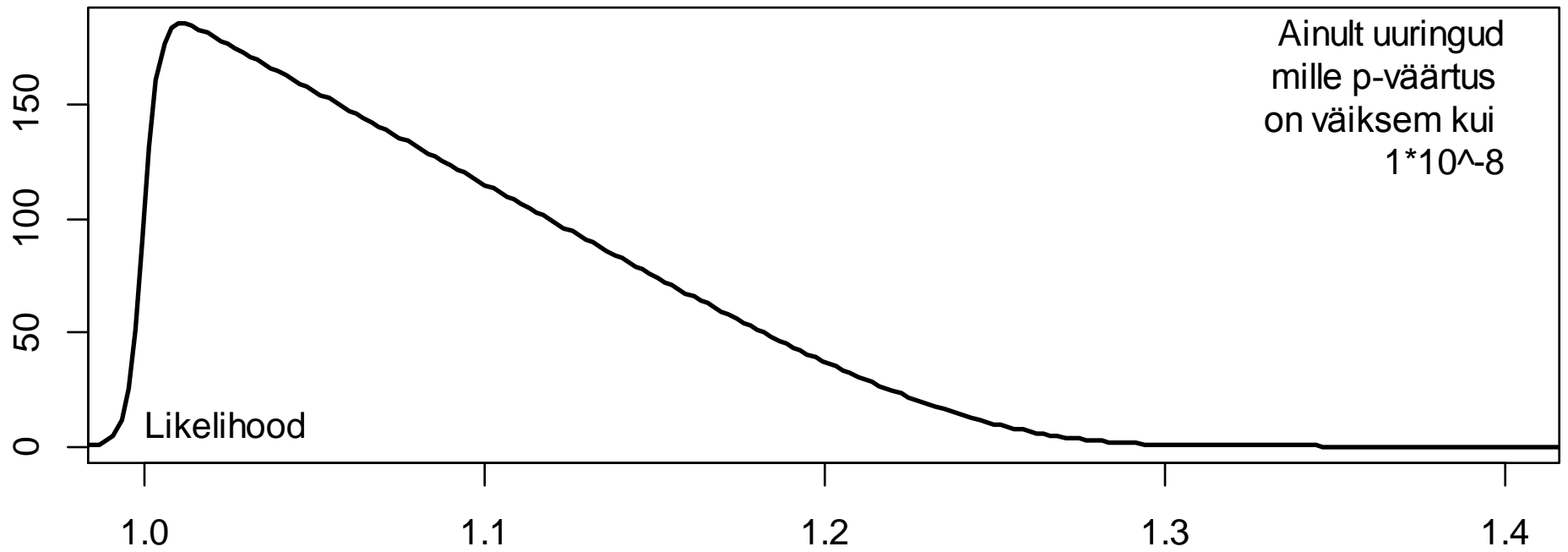


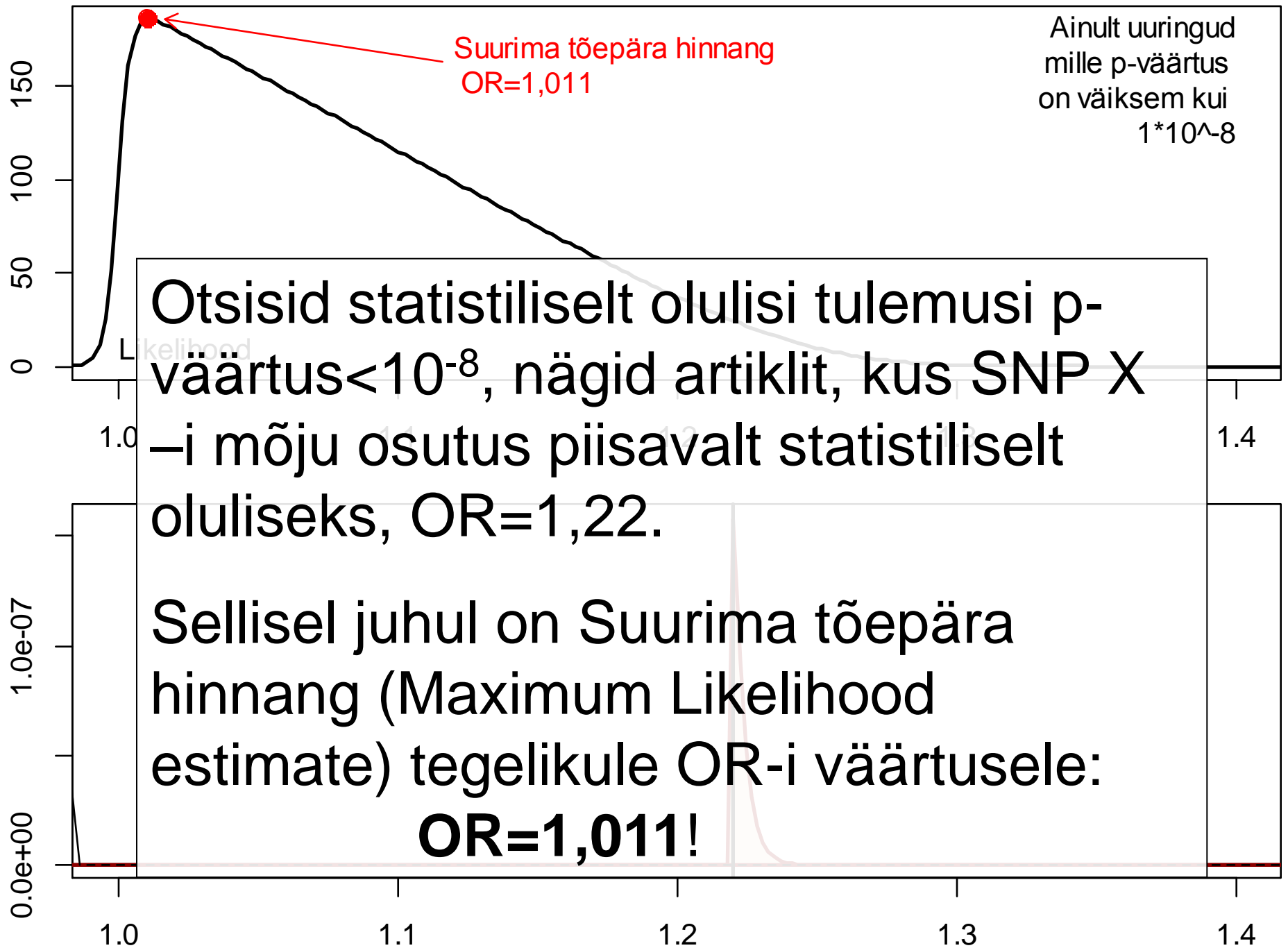












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Clinical Cancer Research



**A Replication Study and Genome-Wide Scan of
Single-Nucleotide Polymorphisms Associated with
Pancreatic Cancer Risk and Overall Survival**

Jason A. Willis, Sara H. Olson, Irene Orlow, et al.

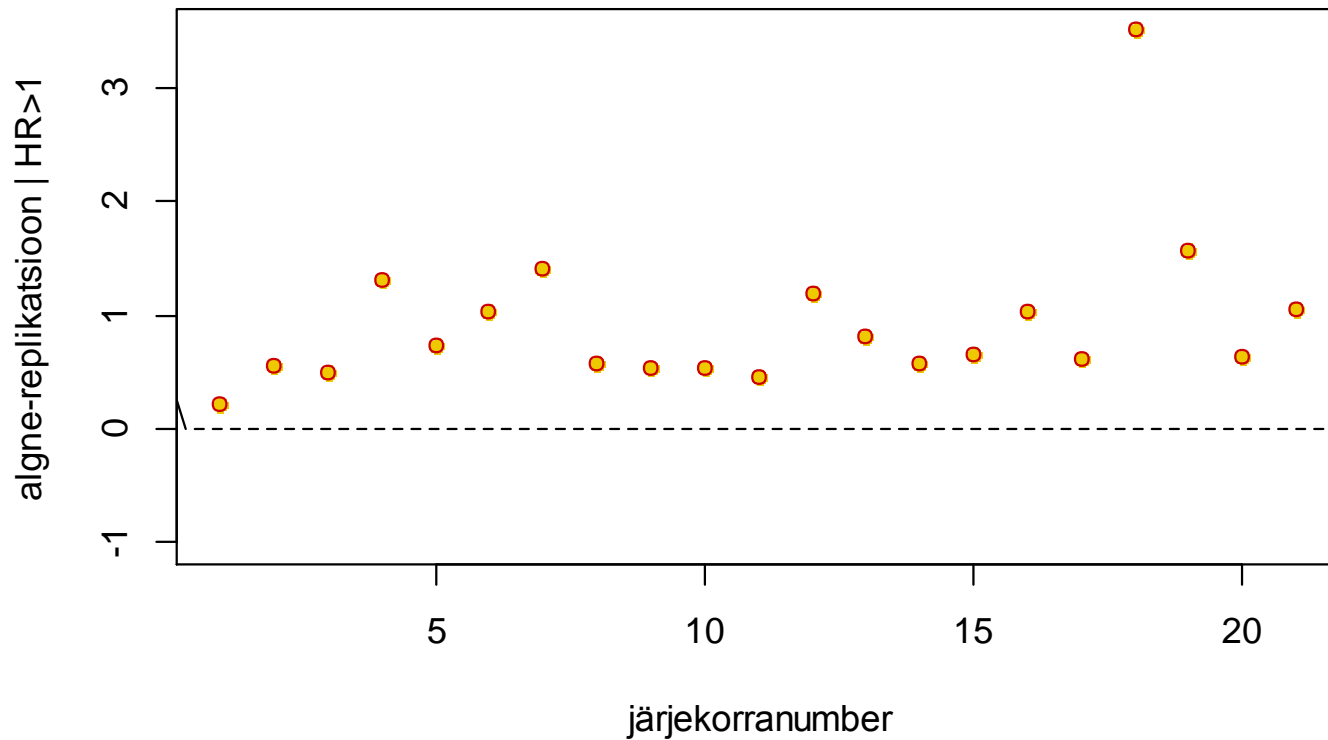
Clin Cancer Res Published OnlineFirst June 4, 2012.

Testime tegelike andmetega...

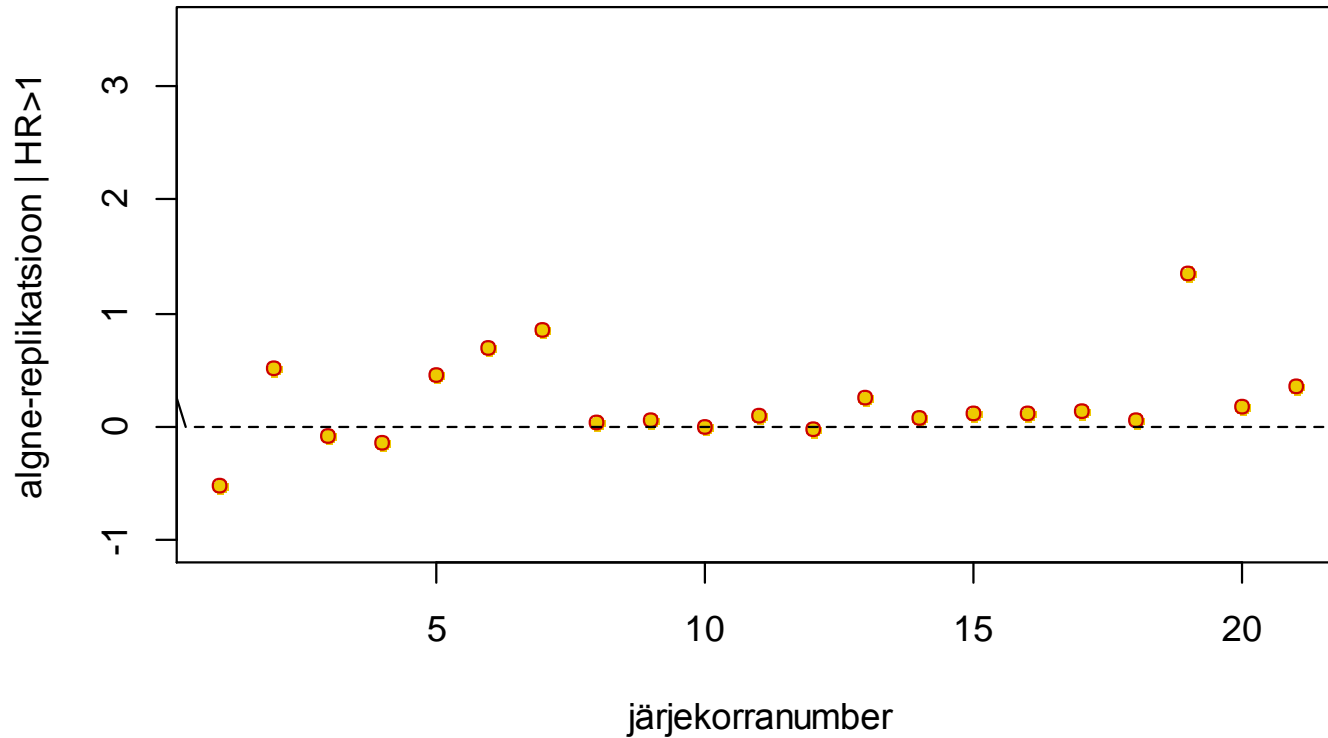
SNP, minor allele, chromosome, gene ^a	Discovery		Validation	
	HR ^b (95% CI)	P ^c	HR ^d (95% CI)	P ^c
rs1482426, G, 12q21, —	1.95 (1.42–2.67)	3.6×10^{-5}	1.73 (1.25–2.40)	0.001
rs4285214, G, 5q23, <i>ZNF608</i>	1.65 (1.35–2.02)	7.9×10^{-7}	1.09 (0.90–1.31)	0.39
rs7849571, G, 9p21, —	1.63 (1.28–2.07)	7.2×10^{-5}	1.14 (0.90–1.43)	0.27
rs11151040, T, 18q23, —	2.57 (1.61–4.10)	7.6×10^{-5}	1.27 (0.76–2.15)	0.36
rs3747572, C, 16p13, <i>GLIS2</i>	1.83 (1.39–2.40)	1.3×10^{-5}	1.10 (0.86–1.42)	0.44
rs10189511, A, 2q34, —	2.11 (1.51–2.95)	1.2×10^{-5}	1.07 (0.77–1.48)	0.70
rs1344963, T, 12q21, —	2.59 (1.69–3.97)	1.4×10^{-5}	1.18 (0.85–1.66)	0.32
rs4903736, A, 14q24, —	1.59 (1.27–1.98)	4.5×10^{-5}	1.02 (0.78–1.32)	0.90
rs11024097, T, 11p15, <i>PLEKHA7</i>	1.54 (1.25–1.90)	4.2×10^{-5}	1.01 (0.81–1.26)	0.91
rs4903741, C, 14q24, —	1.57 (1.25–1.96)	8.7×10^{-5}	1.04 (0.83–1.31)	0.72
rs12835268, C, Xp21, —	1.50 (1.24–1.82)	3.4×10^{-5}	1.05 (0.86–1.28)	0.64
rs16867625, T, 8q22, —	2.33 (1.55–3.51)	5.0×10^{-5}	1.15 (0.75–1.75)	0.52
rs7016046, A, 8q24, —	1.83 (1.38–2.43)	3.1×10^{-5}	1.02 (0.76–1.38)	0.89
rs2056096, T, 18q12, —	1.55 (1.25–1.93)	7.3×10^{-5}	0.97 (0.78–1.20)	0.76
rs8034546, T, 15q14, —	1.62 (1.29–2.04)	4.0×10^{-5}	0.97 (0.75–1.26)	0.85
rs1867348, T, 6q25, <i>IGF2R</i>	2.02 (1.43–2.85)	6.3×10^{-5}	0.98 (0.70–1.37)	0.90
rs956518, G, 4p15, —	0.62 (0.50–0.79)	5.7×10^{-5}	1.13 (0.92–1.40)	0.24
rs10167103, C, 2q14, —	1.53 (1.25–1.88)	5.0×10^{-5}	0.92 (0.76–1.13)	0.43
rs38402, G, 7p15, <i>GGCT</i>	4.75 (2.19–10.31)	8.2×10^{-5}	1.25 (0.65–2.41)	0.50
rs3795244, T, 17q11, <i>ZNF207</i>	2.46 (1.69–3.58)	3.0×10^{-6}	0.89 (0.61–1.29)	0.53
rs1944395, C, 18q12, —	1.50 (1.23–1.84)	8.3×10^{-5}	0.86 (0.70–1.06)	0.16
rs1388193, T, 13q31, —	1.77 (1.34–2.34)	6.5×10^{-5}	0.72 (0.53–0.99)	0.04

Valikukriteerium: p-väärtus $<10^{-4}$

Algse hinnangu ja replikatsiooniuringu erinevus...



STP hinnangu (selektiooni arvestava) ja replikatsiooniuringu erinevus...



Algne uurimistulemus kui hinnang HR-le

nihke hinnang: 0,93

keskmise ruutviga (täpsus): 1,31

STP hinnang HR-le (selektiooni arvestav)

nihke hinnang: 0,22

keskmise ruutviga (täpsus): 0,20