

## 1. In FlyLab verwendete Gene und Informationen von Prof. Desharnais

Mutation		übliche		Chromo- som	Position [cM]	dom/rez	letal
		Abkürz.	in FlyLab				
Yellow Body		y	Y	I-X	0,0	rec	no
White Eyes		w	W	I-X	1,5	rec	no
Crossveinless Wings	queraderlos	cv	CV	I-X	13,7	rec	no
Singed Bristles	versengt	sn	SN	I-X	21,0	rec	no
Tan Body	lohfarben	t	T	I-X	27,5	rec	no
Miniature Wings	kleine	m	M	I-X	36,1	rec	no
Sable Body	zobelfarben	s	S	I-X	43,0	rec	no
Scalloped Wings	mit Bogenrand	sd	SD	I-X	51,5	rec	no
Forked Bristles	gegabelt	f	F	I-X	56,7	rec	no
Bar Eyes	stabförmig	B	B	I-X	57,0	dom	no
Star Eyes	sternförmig	S	ST	II	1,3	dom	yes
Curly Wings	gerollt	Cy	CY	II	6,1	dom	yes
Dumpy Wings	plump	dp	DP	II	13,0	rec	no
Black Body		b	BL	II	48,5	rec	no
Purple Eyes		pr	PR	II	54,5	rec	no
Apterous Wings	flügellos	ap	AP	II	55,2	rec	no
Vestigial Wings	verkümmert	vg	VG	II	67,0	rec	no
Lobe Eyes	Ohrläppchen	L	L	II	72,0	dom	no
Curved Wings	gebogen	c	C	II	75,5	rec	no
Brown Eyes		bw	BW	II	104,5	rec	no
Sepia Eyes		se	SE	III	26,0	rec	no
Dichaete Wings	gespreizt	D	D	III	41,0	dom	yes
Radius Incompletus Wings		ri	RI	III	47,0	rec	no
Aristapedia Antennae	Bein statt An- tenne	Ar	AR	III	47,5	dom	yes
Stubble Bristles	stoppelförmig	Sb	SB	III	58,2	dom	yes
Spineless Bristles	stachellos	ss	SS	III	58,5	rec	no
Ebony Body		e	E	III	70,7	rec	no
Eyeless Eyes		ey	EY	IV	2,0	rec	no
Shaven Bristles		sv	SV	IV	3,0	rec	no

Virtual FlyLab does not incorporate any of the genotype to phenotype complications that are often covered in a genetics course, such as variable expressivity or incomplete penetrance.

2. Geninfos aus [flybase.org](http://flybase.org) bzw. [beta.flybase.org](http://beta.flybase.org)  
 und The interactive Fly (<http://www.sdbonline.org/sites/fly/aimain/1aahome.htm>)

Mutation	Name FlyBase	Fly-Base	Chromosom	rec. Data (Jahr)	cytogenetisch	molecular	Fly Lab
Yellow Body	yellow	y	1 =X	0,0 (41)	1B-1B ?	250,542..255,278	0,0
White Eyes	white	w	1 =X	1.5 (63)	3C2-3C2	2,684,632..2,690,499	1,5
Crossveinless Wings	crossveinless	cv	1 =X	13,7 (47)	(5A13-5A13)	5,584,029..5,587,117	13,7
Singed Bristles	singed	sn	1 =X	21,0 (42)	7D2-7D2	7,858,057..7,880,137	21,0
Tan Body	tan	t	1 =X	27,5	(8A1-8B8)	—	27,5
Miniature Wings	miniature	m	1 =X	36,2 (61)	10E1-10E2	11,648,306..11,663,548	36,1
Sable Body	sable	s	1 =X	43,0 (?)	(11F1-12A1)	—	43,0
Scalloped Wings	scalloped	sd	1 =X	52 (?)	13F1-13F4	15,706,361..15,719,769	51,5
Forked Bristles	forked	f	1 =X	56,7 (42)	15F-15F	17,146,178..17,174,997	56,7
Bar Eyes	Bar	B	1 =X	57,0	16A1-16A2	—	57,0
Star Eyes	Star	S	2L	1,3 (39)	21E2-21E2 (?)	1,050,877..1,077,811	1,3
Curly Wings	Curly	Cy	2	6,1 (61)	(23A4-23B2)	—	6,1
Dumpy Wings	dumpy	dp	2L	12	24F4-25A1	4,477,462..4,614,300	13,0
Black Body	black	b	2L	49	34D1-34D1	13,821,248..13,823,979	48,5
Purple Eyes	purple	pr	2L	54	38B3-38B3	20,073,719..20,075,458	54,5
Apterous Wings	apterous	ap	2R	55	41F-41F8	5,706,202..5,727,525	55,2
Vestigial Wings	vestigial	vg	2R	67,0 (56)	49D-49E	8,771,794..8,786,900	67,0
Lobe Eyes	Lobe	L	2R	72,0	51A4-51A4	10,368,708..10,384,817	72,0
Curved Wings	curved	c	2	75,5	52D3-52D7	—	75,5
Brown Eyes	brown	bw	2R	103	59E2-59E3	23,527,805..23,538,499	104,5
Sepia Eyes	sepia	se	3L	26	66D5-66D5	8,520,552..8,521,489	26,0
Dichaete Wings	Dichaete	D	3L	42	70D3-70D3	14,175,610..14,178,620	41,0
Radius Incompletus Wings	knirps	ri, kni	3L	47	77E3-77E3	20,692,330..20,695,378	47,0
Aristapedia Antennae	Antennapedia	Ar, Antp	3L	47,5	84A6-84B2	6,896,253..6,999,228	47,5
Stubble Bristles	Stubble	Sb	3R	58	89B4-89B6	16,116,161..16,145,284	58,2
Spineless Bristles	spineless	ss	3R	58	89B14-89B15	16,374,434..16,403,690	58,5
Ebony Body	ebony	e	3R	71	93C7-93D1	21,229,839..21,237,177	70,7
Eyeless Eyes	eyeless	ey	4	0	102D4-102D5	697,689..721,173	2,0
Shaven Bristles	shaven	sv	4	0	102F8-102F8	1,088,798..1,113,317	3,0

## Sprachhilfen für Schüler

<b>zu „Instructions“:</b>	
trait	Merkmal
radio button	Auswahlknopf
default	Voreinstellung
to mate	paaren
<b>zu Mutationen:</b>	
apterous wings	flügellos
aristapedia antennae	Bein statt Antenne
bar	stabförmig
bristle	Borsten
crossveinless	queraderlos

curved	gebogen
dichaete	gespreizt
dumpy	plump
forked	gegabelt
lobe	lappenförmig
sable	zobelfarben
scalloped	mit Bogenrand
singed	versengt
spineless	stachellos
star	sternförmig
stubble	stoppelförmig
tan	lohfarben

## Literatur und Internetverweise

[www.flybase.org](http://www.flybase.org)

<http://ceolas.org/fly/>

<http://www.sdbonline.org/sites/fly/aimain/1aahome.htm>

**Die** Gendatenbank für Drosophila  
vgl. „Ergänzungen zu FlyLab“

The Drosophila Virtual Library; Eine Übersicht über alle  
möglichen Angebote zu Drosophila

The Interactive Fly: Drosophila Development  
Ein Lexikon für Drosophila-Gene (u.a.) mit leichter ver-  
ständlichen Informationen zur Verifizierung der Ergeb-  
nisse aus FlyLab

Höttecke, D. (2001): Die Vorstellungen von Schülern und Schülerinnen von der "Natur der Naturwissenschaften".  
ZfDN 7, 7-23

Hafner, L.; Hoff, P. (1995): Genetik. 3. Aufl., Schroedel, Hannover

Seyffert, W.; Gassen, H.G.; Hess, O.; Jäckle, H.; Fischbach, K.-F. (1998): Lehrbuch der Genetik. 1. Aufl., Gustav Fi-  
scher, Stuttgart

Leutner, D. (1993): Guided Discovery Learning with Computer-Based Simulation Games: Effects of Adaptive  
and Non-Adaptive Instructional Support. Learning and Instruction 3, 113-132

Schacter, J.; Fagnano, C. (1999): Does Computer Technology Improve Student Learning and Achievement? How,  
When and Under What Conditions?. Journal of Educational Computing Research 20(4), 329-343