Package 'DEBtoolAnimal'

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Type Package

Title DEB functions fot an animal

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Description DEB based functions for the std and abj models for animals.

License GPL

LazyData TRUE

NeedsCompilation no

R topics documented:

`beta0` *Particular incomplete beta function*

Description

particular incomplete beta function:

Usage

```
beta0(x0, x1)
```

Arguments

x0	scalar with lower boundary for integration
x1	scalar with upper boundary for integration

Value

scalar with particular incomple beta function

See Also

Other miscelaneous functions: C2K; K2C; get_lb; get_ue0; tempcorr

Examples

```
beta0(0.1, 0.2)
```

C2K *Conversion of Celsius to Kelvin*

Description

Computes Kelvin from temperatures defined in Celsius

Usage

```
C2K(C)
```

Arguments

C	numeric temperature in degrees Celsius

Value

temperature in Kelvin

See Also

Other miscelaneous functions: K2C; beta0; get_lb; get_ue0; tempcorr

Examples

```
C2K(20)
```

dget_lambdab2 *Computes derivative d delta/dx*

Description

Obtains the derivative d delta/dx from lambdab, xb and k.

Usage

```
dget_lambdab2(x, delta, pars)
```

Arguments

x	scalar x = g/(g + e)
delta	scalar delta = x e_H/ (1 - kap)g
pars	data.frame with lambdab, xb, xb3 (xb^1/3), k

Value

scalar with derivative value d delta/ dx

See Also

Other scaled get functions: fnget_lambdab2; get_lambdab2; get_lambdab

Examples

```
dget_lambdab2(10^(-6), 0, c(lambdab = 0.003, xb = 10/11, xb3 = (10/11)^(1/3), k = 1))
```

fnget_lambdab2 *Computes initial scaled reserve*

Description

Obtains scaled length at birth, given the scaled reserve density at birth.

Usage

```
fnget_lambdab2(lambdab, pars)
```

Arguments

p	3-vector with parameters: g, k, vv_H^b (see below)
eb	optional scalar with scaled reserve density at birth (default eb = 1)
lambdab0	optional scalar with initial estimate for scaled length at birth (default lambdab0: lambdab for k = 1)

Value

scalar with scaled length at birth (lambdab) and indicator equals 1 if successful, 0 otherwise (info)

See Also

Other scaled get functions: `dget_lambdab2`; `get_lambdab2`; `get_lambdab`

Examples

```
get_lambdab(c(10, 1, 0.01), 1, 0.1)
```

`get_lambdab` *Computes initial scaled reserve*

Description

Obtains scaled length at birth, given the scaled reserve density at birth.

Usage

```
get_lambdab(p, eb, lambdab0 = NA)
```

Arguments

`p`	3-vector with parameters: g, k, vv_H^b (see below)
`eb`	optional scalar with scaled reserve density at birth (default eb = 1)
`lambdab0`	optional scalar with initial estimate for scaled length at birth (default lambdab0: lambdab for k = 1)

Value

scalar with scaled length at birth (lambdab) and indicator equals 1 if successful, 0 otherwise (info)

See Also

Other scaled get functions: `dget_lambdab2`; `fnget_lambdab2`; `get_lambdab2`

Examples

```
get_lambdab(c(10, 1, 0.01), 1, 0.1)
```

get_lambdab2 *Computes initial scaled reserve*

Description

Obtains scaled length at birth, given the scaled reserve density at birth.

Usage

```
get_lambdab2(p, eb, lambdab0 = NA)
```

Arguments

p	3-vector with parameters: g, k, vv_H^b (see below)
eb	optional scalar with scaled reserve density at birth (default eb = 1)
lambdab0	optional scalar with initial estimate for scaled length at birth (default lambdab0: lambdab for k = 1)

Value

scalar with scaled length at birth (lambdab) and indicator equals 1 if successful, 0 otherwise (info)

See Also

Other scaled get functions: dget_lambdab2; fnget_lambdab2; get_lambdab

Examples

```
get_lambdab(c(10, 1, 0.01), 1, 0.1)
```

get_lb *Computes initial scaled reserve*

Description

particular incomplete beta function:

Usage

```
get_lb(p, eb, lb0 = NA)
```

Arguments

x0	scalar with lower boundary for integration
x1	scalar with upper boundary for integration

Value

scalar with particular incomple beta function

See Also

Other miscelaneous functions: `C2K`; `K2C`; `beta0`; `get_ue0`; `tempcorr`

Examples

```
beta0(0.1, 0.2)
```

`get_ue0` *Computes initial scaled reserve*

Description

particular incomplete beta function:

Usage

```
get_ue0(p, eb, lb0)
```

Arguments

`x0`	scalar with lower boundary for integration
`x1`	scalar with upper boundary for integration

Value

scalar with particular incomple beta function

See Also

Other miscelaneous functions: `C2K`; `K2C`; `beta0`; `get_lb`; `tempcorr`

Examples

```
beta0(0.1, 0.2)
```

`K2C` *Conversion of Kelvin to Celsius*

Description

Computes Celsius from temperatures given in Kelvin

Usage

```
K2C(K)
```

Arguments

`K`	numeric temperature in degrees Kelvin

Value

temperature in Kelvin

See Also

Other miscelaneous functions: `C2K`; `beta0`; `get_lb`; `get_ue0`; `tempcorr`

Examples

```
K2C(293.15)
```

`tempcorr` *Conversion of Kelvin to Celsius*

Description

Calculates the factor with which physiological rates should be multiplied to go from a reference temperature to a given temperature

Usage

```
tempcorr(Temp, T_1, Tpars)
```

Arguments

`T_1`	scalar with reference temperature
`Tpars`	1-, 3- or 5-vector with temperature parameters
`T`	vector with new temperatures

Value

vector with temperature correction factors that affect all rates

See Also

Other miscelaneous functions: `C2K`; `K2C`; `beta0`; `get_lb`; `get_ue0`

Examples

```
tempcorr(c(330, 331, 332), 320, c(12000, 277, 318, 20000, 190000))
```