Package 'Sleuth3'

July 25, 2012

Title Data sets from Ramsey and Schafer's ''Statistical Sleuth (3rd ed)''

Version 0.0-4

Date 2012-06-24

Author Original by F.L. Ramsey and D.W. Schafer,modifications by Daniel W. Schafer, Jeannie Sifneos and Berwin A. Turlach

Description Data sets from Ramsey, F.L. and Schafer, D.W. (2012), ''The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)'', Duxbury.

Maintainer Berwin A Turlach <Berwin.Turlach@gmail.com>

LazyData yes

Depends R (>= 2.12.0)

Suggests lattice, multcomp

License GPL (>= 2)

URL http://r-forge.r-project.org/projects/sleuth2/

R topics documented:

Sleuth3-package *The R Sleuth3 package*

Description

Data sets from Ramsey and Schafer's "Statistical Sleuth (2nd ed)"

Details

This package contains a variety of datasets. For a complete list, use `library(help="Sleuth3")` or `Sleuth3Manual()`.

Author(s)

Original by F.L. Ramsey and D.W. Schafer

Modifications by Daniel W Schafer, Jeannie Sifneos and Berwin A Turlach

Maintainer: Berwin A Turlach `<Berwin.Turlach@gmail.com>`

case0101 *Motivation and Creativity*

Description

Data from an experiment concerning the effects of intrinsic and extrinsic motivation on creativity. Subjects with considerable experience in creative writing were randomly assigned to on of two treatment groups.

Usage

```
case0101
```

Format

A data frame with 47 observations on the following 2 variables.

`Score` creativity score

`Treatment` factor denoting the treatment group, with levels "Extrinsic" and "Intrinsic"

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Amabile, T. (1985). Motivation and Creativity: Effects of Motivational Orientation on Creative Writers, *Journal of Personality and Social Psychology* **48**(2): 393–399.

Examples

```
attach(case0101)
str(case0101)
boxplot(Score ~ Treatment)

boxplot(Score ~ Treatment,
  ylab= "Average Creativity Score From 11 Judges (on a 40-point scale)",
  names=c("23 'Extrinsic' Group Students","24 'Intrinsic' Group Students"),
  main= "Haiku Creativity Scores for 47 Creative Writing Students")

detach(case0101)
```

---

case0102 *Sex Discrimination in Employment*

Description

The data are the beginning salaries for all 32 male and all 61 female skilled, entry–level clerical employees hired by a bank between 1969 and 1977.

Usage

```
case0102
```

Format

A data frame with 93 observations on the following 2 variables.

`Salary` starting salaries (in US$)

`Sex` sex of the clerical employee, with levels "Female" and "Male"

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Roberts, H.V. (1979). Harris Trust and Savings Bank: An Analysis of Employee Compensation, *Report 7946*, Center for Mathematical Studies in Business and Economics, University of Chicago Graduate School of Business.

See Also

`case1202`

Examples

```
attach(case0102)
str(case0102)

boxplot(Salary ~ Sex,
  ylab= "Starting Salary (U.S. Dollars)",
  names=c("61 Females","32 Males"),
  main= "Harris Bank Entry Level Clerical Workers, 1969-1971")

hist(Salary[Sex=="Female"])
dev.new()
hist(Salary[Sex=="Male"])

t.test(Salary ~ Sex, var.equal=TRUE) # Equal var. version; 2-sided by default
t.test(Salary ~ Sex, var.equal=TRUE,
  alternative = "less")  # 1-sided; that group 1 (females) mean is less

detach(case0102)
```

---

case0201 *Peter and Rosemary Grant's Finch Beak Data*

Description

In the 1980s, biologists Peter and Rosemary Grant caught and measured all the birds from more than 20 generations of finches on the Galapagos island of Daphne Major. In one of those years, 1977, a severe drought caused vegetation to wither, and the only remaining food source was a large, tough seed, which the finches ordinarily ignored. Were the birds with larger and stronger beaks for opening these tough seeds more likely to survive that year, and did they tend to pass this characteristic to their offspring? The data are beak depths (height of the beak at its base) of 89 finches caught the year before the drought (1976) and 89 finches captured the year after the drought (1978).

Usage

```
case0201
```

Format

A data frame with 178 observations on the following 2 variables.

`Year` Year the finch was caught, 1976 or 1978

`Depth` Beak depth of the finch (mm)

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Grant, P. (1986). **Ecology and Evolution of Darwin's Finches**, Princeton University Press, Princeton, N.J.

See Also

ex2018

Examples

```
attach(case0201)
str(case0201)

mean(Depth[Year==1978]) - mean(Depth[Year==1976])

yearFactor <- factor(Year)
t.test(Depth ~ yearFactor, var.equal=TRUE)
t.test(Depth ~ yearFactor, var.equal=TRUE, alternative = "less")

boxplot(Depth ~ Year,
  ylab= "Beak Depth (mm)",
  names=c("89 Finches in 1976","89 Finches in 1978"),
  main= "Beak Depths of Darwin Finches in 1976 and 1978")

## BOXPLOTS FOR PRESENTATION
boxplot(Depth ~ Year,
        ylab="Beak Depth (mm)",
        names=c("89 Finches in 1976","89 Finches in 1978"),
        main="Beak Depths of Darwin Finches in 1976 and 1978",
        col="green",
        boxlwd=2,
        medlwd=2,
        whisklty=1,
        whisklwd=2,
        staplewex=.2,
        staplelwd=2,
        outlwd=2,
        outpch=21,
        outbg="green",
        outcex=1.5)

detach(case0201)
```

---

case0202 *Anatomical Abnormalities Associated with Schizophrenia*

Description

Are any physiological indicators associated with schizophrenia? In a 1990 article, researchers reported the results of a study that controlled for genetic and socioeconomic differences by examining 15 pairs of monozygotic twins, where one of the twins was schizophrenic and the other was not. The researchers used magnetic resonance imaging to measure the volumes (in cm^3) of several regions and subregions of the twins' brains.

Usage

```
case0202
```

Format

A data frame with 15 observations on the following 2 variables.

`Unaffected` volume of left hippocampus of unaffected twin (in cm^3)

`Affected` volume of left hippocampus of affected twin (in cm^3)

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Suddath, R.L., Christison, G.W., Torrey, E.F., Casanova, M.F. and Weinberger, D.R. (1990). Anatomical Abnormalities in the Brains of Monozygotic Twins Discordant for Schizophrenia, *New England Journal of Medicine* **322**(12): 789–794.

Examples

```
attach(case0202)
str(case0202)

diff <- Unaffected-Affected
summary(diff)
t.test(diff) # Paired t-test is a one-sample t-test on differnces
t.test(Unaffected,Affected,pair=TRUE)   # same thing

boxplot(diff,
        ylab="Difference in Hippocampus Volume (cubic cm)",
        xlab="15 Sets of Twins, One Affected with Schizophrenia",
        main="Hippocampus Difference: Unaffected Twin Minus Affected Twin")
abline(h=0,lty=2)   # Draw a dashed (lty=2) horizontal line at 0

## BOXPLOT FOR PRESENTATION:
boxplot(diff,
        ylab="Difference in Hippocampus Volume (cubic cm)",
        xlab="15 Sets of Twins, One Affected with Schizophrenia",
        main="Hippocampus Difference: Unaffected Minus Affected Twin",
        col="green",
        boxlwd=2,
        medlwd=2,
        whisklty=1,
        whisklwd=2,
        staplewex=.2,
        staplelwd=2,
        outlwd=2,
        outpch=21,
        outbg="green",
        outcex=1.5)
abline(h=0,lty=2)

detach(case0202)
```

case0301 *Cloud Seeding*

Description

Does dropping silver iodide onto clouds increase the amount of rainfall they produce? In a randomized experiment, researchers measured the volume of rainfall in a target area (in acre-feet) on 26 suitable days in which the clouds were seeded and on 26 suitble days in which the clouds were not seeded.

Usage

```
case0301
```

Format

A data frame with 52 observations on the following 2 variables.

`Rainfall` the volume of rainfall in the target area (in acre-feet)

`Treatment` a factor with levels `"Unseeded"` and `"Seeded"` indicating whether the clouds were unseeded or seeded.

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Simpson, J., Olsen, A., and Eden, J. (1975). A Bayesian Analysis of a Multiplicative Treatment Effect in Weather Modification. *Technometrics* **17**: 161–166.

Examples

```
attach(case0301)
str(case0301)

boxplot(Rainfall ~ Treatment)
boxplot(log(Rainfall) ~ Treatment)

t.test(log(Rainfall) ~ Treatment, alternative="greater", var.equal=TRUE)

# Use 2-sided alternative to get a 2-sided confidence interval:
myTest <- t.test(log(Rainfall) ~ Treatment, alternative="two.sided", var.equal=TRUE)
exp(myTest$est[1] - myTest$est[2])  # Back-transform estimate on log scale
exp(myTest$conf) # Back transform endpoints of confidence interval

boxplot(log(Rainfall) ~ Treatment,
  ylab="Log of Rainfall Volume in Target Area (Acre Feet)",
  names=c("On 26 Seeded Days", "On 26 Unseeded Days"),
  main="Distributions of Rainfalls from Cloud Seeding Experiment")

## POLISHED BOXPLOTS FOR PRESENTATION:
```

```
par(mar=c(4,4,4,4))
boxplot(log(Rainfall) ~ Treatment,
        ylab="Log Rainfall (Acre-Feet)",
        names=c("on 26 seeded days","on 26 unseeded days"),
        main="Boxplots of Rainfall on Log Scale",
        col="green",
        boxlwd=2,
        medlwd=2,
        whisklty=1,
        whisklwd=2,
        staplewex=.2,
        staplelwd=2,
        outlwd=2,
        outpch=21,
        outbg="green",
        outcex=1.5      )
myTicks <- c(1,5,10,100,500,1000,2000,3000) # Create some tick marks for original scale
axis(4, at=log(myTicks), label=myTicks)   # Add original-scale axis on right
mtext("Rainfall (Acre Feet)", side=4, line=2.5) # Add right-side axis label

detach(case0301)
```

`case0302` *Agent Orange*

Description

In 1987, researchers measured the TCDD concentration in blood samples from 646 U.S. veterans of the Vietnam War and from 97 U.S. veterans who did not serve in Vietnam. TCDD is a carcinogenic dioxin in the herbicide called Agent Orange, which was used to clear jungle hiding areas by the U.S. military in the Vietnam War between 1962 and 1970.

Usage

```
data(case0302)
```

Format

A data frame with 743 observations on the following 2 variables.

`Dioxin` the concentration of TCDD, in parts per trillion

`Veteran` factor variable with two levels, `"Vietnam"` and `"Other"`, to indicate the type of veteran

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Centers for Disease Control Veterans Health Studies: Serum 2,3,7,8-Tetraclorodibenzo-p-dioxin Levels in U.S. Army Vietnam-era Veterans. *Journal of the American Medical Association* **260**: 1249–1254.

Examples

```
attach(case0302)
str(case0302)
boxplot(Dioxin ~ Veteran)

t.test(Dioxin ~ Veteran, alternative="less", var.equal=TRUE)
t.test(Dioxin ~ Veteran, alternative="less", var.equal=TRUE, subset=(Dioxin < 40))
t.test(Dioxin ~ Veteran, alternative="less", var.equal=TRUE, subset=(Dioxin < 20))
t.test(Dioxin ~ Veteran, var.equal=TRUE)

## HISTOGRAMS FOR PRESENTATION
par(mfrow=c(2,1), mar=c(3,3,1,1))
myBreaks <- (0:46) - .5    # Make breaks for histogram bins
hist(Dioxin[Veteran=="Other"], breaks=myBreaks, xlim=range(Dioxin),
     col="green", xlab="", ylab="", main="")
text(10,25, "Dioxin in 97 'Other' Veterans; Estimated mean =  4.19 ppt (95 pct CI: 3.72 to 4.65 ppt)",
     pos=4, cex=.75)
hist(Dioxin[Veteran=="Vietnam"],breaks=myBreaks,xlim=range(Dioxin),
     col="green", xlab="", ylab="", main="")
text(10,160,"Dioxin in 646 Vietnam Veterans; Estimated mean =  4.26 ppt (95 pct CI: 4.06 to 4.64 ppt)",
     pos=4, cex=.75)
text(13,145,"[Estimated Difference in Means: 0.07 ppt (95 pct CI: -0.63 to 0.48 ppt])",
     pos=4, cex=.75)

detach(case0302)
```

---

case0401 *Space Shuttle*

Description

The number of space shuttle O-ring incidents for 4 space shuttle launches when the air temperatures was below 65 degrees F and for 20 space shuttle launches when the air temperature was above 65 degrees F.

Usage

```
case0401
```

Format

A data frame with 24 observations on the following 2 variables.

`Incidents` the number of O-ring incidents

`Launch` factor variable with two levels—`"Cool"` and `"Warm"`

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Feynman, R.P. (1988). *What do You Care What Other People Think?* W. W. Norton.

See Also

ex2011, ex2223

Examples

```
str(case0401)
attach(case0401)

mCool <- mean(Incidents[Launch=="Cool"])
mWarm <- mean(Incidents[Launch=="Warm"])
mDiff <- mCool - mWarm
c(mCool,mWarm,mDiff)

## PERMUTATION TEST BASED ON DIFFERENCE IN AVERAGES, VIA REPEATED RANDOM RE-GROUPING (ADVANCED)
numRep  <- 50 # Number of random re-groupings.
             # NOTE: this should be changed to something like 50,000 for useful results.
rDiff  <- rep(0,numRep) # A place to store the differences in averages from the re-groupings
for (rep in 1:numRep) {  # Repeat the commands following numRep times
  randomGroup <- rep("rWarm",24)  # Initially set this to 24 values "rWarm"
  randomGroup[sample(1:24,4)]  <- "rCool"  # Replace 4 and random with "rCool"
  mW  <- mean(Incidents[randomGroup=="rWarm"])
  mC  <- mean(Incidents[randomGroup=="rCool"])
  rDiff[rep] <- mC-mW  # Store the difference in averages
                                  }
hist(rDiff,    # Draw a histogram of the difference in averages from numRep random re-groupings
  main="Approximate Permutation Distribution",
  xlab="Possible Values of Difference in Averages",
  ylab="Frequency of Occurrence")
abline(v=mDiff)  # Make a vertical line at the actually observed difference
pValue <- sum(rDiff >= 1.3)/numRep  # 1-sided p-value = proportion of re-groupings with diff >= observed
pValue
text(mDiff,75000,
  paste(" -->",round(pValue,4)),
  adj=-0.1)

detach(case0401)
```

---

case0402 *Cognitive Load*

Description

Educational researchers randomly assigned 28 ninth-year students in Australia to receive coordinate geometry training in one of two ways: a conventional way and a modified way. After the training, the students were asked to solve a coordinate geometry problem. The time to complete the problem was recorded, but five students in the "conventional" group did not complete the solution in the five minute alloted time.

Usage

```
case0402
```

Format

A data frame with 28 observations on the following 3 variables.

`Time` the time (in seconds) that the student worked on the problem

`Treatment` factor variable with two levels—`"Modified"` and `"Conventional"`

`Censored` 1 if the individual did not complete the problem in 5 minutes, 0 if they did

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Sweller, J., Chandler, P., Tierney, P. and Cooper, M. (1990). Cognitive Load as a Factor in the Structuring of Technical Material, *Journal of Experimental Psychology General* **119**(2): 176–192.

Examples

```
str(case0402)
attach(case0402)

boxplot(Time ~ Treatment)
median(Time[Treatment=="Conventional"])-median(Time[Treatment=="Modified"])

wilcox.test(Time ~ Treatment, exact=FALSE, correct=TRUE, alternative="greater")
wilcox.test(Time ~ Treatment, exact=FALSE, correct=TRUE, alternative="two.sided", conf.int=TRUE)

## DOT PLOTS FOR PRESENTATION
xTreatment    <- ifelse(Treatment=="Conventional",1,2)
myPointCode   <- ifelse(Censored==0,21,24)
plot(Time ~ jitter(xTreatment,.2),
     ylab="Completion Time (Sec.)",  xlab="Training Method (jittered for visibility)",
     main="Test Completion Times from Cognitive Load Experiment",
     axes=FALSE, pch=myPointCode, bg="green", cex=2, xlim=c(.5,2.5) )
axis(2)
axis(1, tick=FALSE, at=c(1,2), labels=c("Conventional (n=14 Students)","Modified (n=14 Students)") )
legend(1.5,300, legend=c("Did not Complete in 300 sec","Completed in 300 sec."),
       pch=c(24,21), pt.cex=2, pt.bg="green")

detach(case0402)
```

---

case0501 *Diet Restriction and Longevity*

Description

Female mice were randomly assigned to six treatment groups to investigate whether restricting dietary intake increases life expectancy. Diet treatments were:

1. `"NP"`—mice ate unlimited amount of nonpurified, standard diet
2. `"N/N85"`—mice fed normally before and after weaning. After weaning, ration was controlled at 85 kcal/wk

3. "N/R50"—normal diet before weaning and reduced calorie diet (50 kcal/wk) after weaning
4. "R/R50"—reduced calorie diet of 50 kcal/wk both before and after weaning
5. "N/R50 lopro"—normal diet before weaning, restricted diet (50 kcal/wk) after weaning and dietary protein content decreased with advancing age
6. "N/R40"—normal diet before weaning and reduced diet (40 Kcal/wk) after weaning.

Usage

```
case0501
```

Format

A data frame with 349 observations on the following 2 variables.

`Lifetime` the lifetime of the mice (in months)

`Diet` factor variable with six levels—"NP", "N/N85", "lopro", "N/R50", "R/R50" and "N/R40"

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Weindruch, R., Walford, R.L., Fligiel, S. and Guthrie D. (1986). The Retardation of Aging in Mice by Dietary Restriction: Longevity, Cancer, Immunity and Lifetime Energy Intake, *Journal of Nutrition* **116**(4):641–54.

Examples

```
str(case0501)
attach(case0501)

myDiet <- factor(Diet, levels=c("NP","N/N85","N/R50","R/R50","lopro","N/R40") )  # Re-order levels for better
myNames <- c("NP(49)","N/N85(57)","N/R50(71)","R/R50(56)","lopro(56)","N/R40(60)")
boxplot(Lifetime ~ myDiet, ylab= "Lifetime (months)", names=myNames, xlab="Treatment (and sample size)")
myAov1   <- aov(Lifetime ~ Diet)
plot(myAov1, which=1)
summary(myAov1)
pairwise.t.test(Lifetime,Diet, pool.SD=TRUE, p.adj="none")

## p-VALUES AND CONFIDENCE INTERVALS FOR SPECIFIED COMPARISONS OF MEANS, USING GLHT IN MULTCOMP PACKAGE
if(require(multcomp)){
  diet    <- factor(Diet,labels=c("lopro", "NN85", "NR40", "NR50", "NP", "RR50"))
  myAov2  <- aov(Lifetime ~ diet - 1)
  myComparisons <- glht(myAov2,
          linfct=c("dietNR50 - dietNN85 = 0",
          "dietNR40  - dietNR50 = 0",
          "dietRR50  - dietNR50 = 0",
          "dietlopro - dietNR50 = 0",
          "dietNN85  - dietNP   = 0")   )
 summary(myComparisons,test=adjusted("none"))    # No multiple comparison adjustment (for these planned compa
 confint(myComparisons, calpha = univariate_calpha()) # No multiple comparison adjustment
}
```

```
## EXAMPLE 5: BOXPLOTS FOR PRESENTATION
boxplot(Lifetime ~ myDiet, ylab= "Lifetime (months)", names=myNames,
        main= "Lifetimes of Mice on 6 Diet Regimens",
        xlab="Diet (and sample size)", col="green", boxlwd=2, medlwd=2,
        whisklty=1, whisklwd=2, staplewex=.2, staplelwd=2, outlwd=2,
        outpch=21, outbg="green", outcex=1.5)

detach(case0501)
```

`case0502` *The Spock Conspiracy Trial*

Description

In 1968, Dr. Benjamin Spock was tried in Boston on charges of conspiring to violate the Selective Service Act by encouraging young men to resist being drafted into military service for Vietnam. The defence in the case challenged the method of jury selection claiming that women were underrepresented. Boston juries are selected in three stages. First 300 names are selected at random from the City Directory, then a venire of 30 or more jurors is selected from the initial list of 300 and finally, an actual jury is selected from the venire in a nonrandom process allowing each side to exclude certain jurors. There was one woman on the venire and no women on the final list. The defence argued that the judge in the trial had a history of venires in which women were systematically underrepresented and compared the judge's recent venires with the venires of six other Boston area district judges.

Usage

```
case0502
```

Format

A data frame with 46 observations on the following 2 variables.

`Percent` is the percent of women on the venire's of the Spock trial judge and 6 other Boston area judges

`Judge` a factor with levels `"Spock's"`, `"A"`, `"B"`, `"C"`, `"D"`, `"E"` and `"F"`

Source

Ramsey, F.L. and Schafer, D.W. (2012). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

References

Zeisel, H. and Kalven, H. Jr. (1972). Parking Tickets and Missing Women: Statistics and the Law *in* Tanur, J.M. et al. (eds.) *Statistics: A Guide to the Unknown*, Holden-Day.

Examples

```
str(case0502)
attach(case0502)

myNames <- c("A (5)", "B (6)", "C (9)", "D (2)", "E (6)", "F (9)", "Spock's (9)" )  # Factor level names (with sa
boxplot(Percent ~ Judge, ylab = "Percent of Women on Judges' Venires",
        names = myNames, xlab = "Judge (and number of venires)",
        main = "Percent Women on Venires of 7 Massachusetts Judges")
myAov1  <- aov(Percent ~ Judge)
plot(myAov1, which=1)   # Residual plot
summary(myAov1) # Initial screening--is there evidence that any means differ from any others?  (Yes)

## ANALYSIS 1. TWO-SAMPLE t-TEST (ASSUMING NON-SPOCK JUDGES HAVE A COMMON MEAN)
SpockOrOther <- factor(ifelse(Judge=="Spock's","Spock","Other"))  # Indicator for Spock's judge
aovFull      <- aov(Percent ~ Judge)
aovReduced   <- aov(Percent ~ SpockOrOther)
anova(aovReduced,aovFull)  # Is there evidence that the 7 mean model fits better than the 2 mean model? (No)
t.test(Percent ~ SpockOrOther, var.equal=TRUE) # Is there evidence in the 2 mean model that the means differ? (Y

## ANALYSIS 2. COMPARE SPOCK MEAN TO AVERAGE OF OTHER MEANS (NOT ASSUMING NON-SPOCK JUDGES HAVE A COMMON MEAN)
if(require(multcomp)){
  myAov3        <- aov(Percent ~ Judge - 1)
  myContrast    <- rbind(c(1/6, 1/6, 1/6, 1/6, 1/6, 1/6, - 1))
  myComparison  <- glht(myAov3, linfct=myContrast)
 summary(myComparison, test=adjusted("none"))  # Is there evidence that Spock mean differs from average of oth
  confint(myComparison)
}

## BOXPLOTS FOR PRESENTATION
boxplot(Percent ~ Judge,  ylab= "Percent of Women on Judges' Venires",
        names=myNames, xlab="Judge (and number of venires)",
        main= "Percent Women on Venires of 7 Massachusetts Judges",
        col="green", boxlwd=2,  medlwd=2,  whisklty=1,  whisklwd=2,
        staplewex=.2, staplelwd=2,  outlwd=2,  outpch=21, outbg="green",
        outcex=1.5)

detach(case0502)
```

`Sleuth3Manual` *Manual of the R Sleuth3 package*

Description

If the option "pdfviewer" is set, this command will display the PDF version of the help pages.

Usage

```
Sleuth3Manual()
```

Author(s)

Berwin A Turlach <Berwin.Turlach@gmail.com>

References

Ramsey, F.L. and Schafer, D.W. (2002). *The Statistical Sleuth: A Course in Methods of Data Analysis (3rd ed)*, Duxbury.

Examples

```
## Not run: Sleuth3Manual()
```

Index