

Index

A

acepromazine, 211–212
acetylcholine, 209–210
adrenal, 80, 211, 213
affiliative, 3, 69, 72, 79, 86, 108, 119
aggregation, 22–23, 28, 34, 38
aggressive behavior
 camelids, 159, 164
 chelonians, 37–41
 chinchillas, 140
 ferrets, 61–64
 gerbils, 119–120, 123–124
 guinea pigs, 78–79, 83–85
 hamsters, 131–132, 134–136
 hedgehogs, 175, 177
 lizards, 51, 54–56
 mice, 93–94, 96–100
 passerines, 15, 18
 prairie dogs, 150, 154–155
 psittacines, 2, 5–9
 rabbits, 72, 74–75
 rats, 105, 107–110, 112
 as a sign of pain, 31, 56
 sugar gliders, 183, 184
allofeed/ing, 3
allogroom/ing
 ferrets, 63
 gerbils, 121
 mice, 93, 94
 prairie dogs, 150–152, 154
allonurse/ing, 154
aloparent/ing, 154
alopreen/ing, 3, 7, 12, 14
alpaca (*Lama pacos*). See camelids
alpha adrenergic, 210
alprazolam, 208
altricial, 3, 13, 69, 122, 177, 219
ambush predation, 24, 27
amitraz, 210
amitriptyline (Elavil), 8, 209, 211
amphetamines, 210
analgesics, 31, 41, 56, 209
ancestors, wild, 218
 camelids, 157, 159
 ferrets, 59, 61, 63
 gerbil, 117–118
 guinea pig, 78–79
 passerines, 18
 Squamata, 21

androgens, 14, 121
anestrus, 110, 141, 175
anorexia, 23, 30, 31, 41, 55, 220
anticonvulsant, 208, 209
antipredator behavior
 in hedgehogs, 72
 in prairie dogs, 153–154
 in snakes, 23, 30
 and welfare, 220
antipsychotics, 208–213
anticholinergic, 208, 210–212
anxiety, 191–192, 204, 206, 207
 in chinchillas, 146
 in gerbils, 121
 in mice, 93
 psittacines, 6–7
 treatment of, 208–211, 213
anxiogenic, 97
anxiolytic, 208–210, 212
appeasement behavior, 2, 3, 121, 220
Applied Behavior Analysis (ABA), 190
approximations, successive, 198–199, 202, 204
area centralis, 106
audition/auditory
 camelids, 159–160
 chinchillas, 139–140
 ferrets, 59
 gerbils, 118
 guinea pigs, 78, 80
 hamsters, 128
 hedgehogs, 169–170
 mice, 92, 97
 passerines, 14, 16
 prairie dogs, 150
 psittacines, 4
 rabbits, 70
 rats, 105

B

barbering, 19, 87, 100
barbiturate, 208, 210–211
bar biting, 99
bar mouthing, 124, 136
basal nuclei, 212
basking behavior
 chelonians, 36, 39–42
 chinchillas, 140, 142
 lizards, 44, 47–49, 51, 53, 55
 snakes, 24, 30

- behavior problems
 - chelonians, 40
 - ferrets, 65–66
 - gerbils, 123–124
 - guinea pigs, 86–87
 - hamsters, 135–136
 - hedgehogs, 177–178
 - lizards, 55–56
 - mice, 99–100
 - passerines, 17–19
 - prairie dogs, 155
 - psittacines, 5–10
 - rabbits, 73–76
 - rats, 112–113
 - snakes, 30–31
 - benzodiazepines, 208, 209
 - binocular vision, 106, 182
 - biogenic amines, 207, 210
 - biparental care, 3, 13, 122
 - biting
 - camelids, 159, 163
 - chelonians, 38, 40–41
 - chinchillas, 142, 146
 - ferrets, 61–62, 65–66
 - hamsters, 135
 - lizards, 46, 51, 53, 56
 - mice, 94, 96
 - prairie dogs, 150, 154
 - psittacines, 5, 9, 193, 195, 197, 199–200, 203–204
 - rabbits, 74, 75
 - rats, 105, 109
 - snakes, 23, 29, 31
 - body care
 - camelids, 160–161
 - chinchillas, 140–141
 - ferrets, 60
 - gerbils, 119–120
 - hamsters, 131–132
 - hedgehogs, 171–172
 - mice, 93–94
 - prairie dogs, 151
 - rats, 107–108
 - bonds/bonding
 - interspecific
 - camelids, 163
 - intraspecific
 - guinea pigs, 80–84, 86
 - mice, 95
 - passerines, 13–15, 18
 - prairie dogs, 150–151
 - psittacines, 2–4, 7
 - human–animal, 198, 203
 - ferrets, 67
 - rabbits, 71, 72
 - sugar gliders, 188
 - Bruce effect, 96
 - boxing, 105, 121, 174
 - brood/ing 3, 13, 30, 53–54, 96
 - patch, 19
 - burrows
 - chelonians, 34, 36–37
 - chinchillas, 139
 - gerbils, 122, 124
 - hamsters 127, 131, 133–134, 136
 - hedgehogs, 173
 - mice, 93
 - lizards, 48, 53
 - prairie dogs, 148–154
 - rats, 104–105
 - snakes, 26
 - buspirone, 210, 211
 - butorphanol (Torbugesic), 209
- C**
- cache, 60, 86
 - calls. *See also* vocalizations
 - camelids, 160
 - ferrets, 61, 65
 - hamsters, 128–130, 133
 - hedgehogs, 170
 - gerbils, 119
 - guinea pigs, 81–82
 - mice, 95–96
 - passerines, 12–13, 15
 - prairie dogs, 148–150, 152–155
 - psittacines, 3–4, 8, 10
 - rats, 107, 109
 - camelids (New World or South American)
 - body care, 160–161
 - domestication, 157–158
 - habitat, 158
 - handling, 165
 - ingestive behavior, 164–165
 - locomotion, 164
 - maternal behavior, 162
 - reproductive behavior, 161–162
 - senses/communication, 159–160
 - social behavior, 158–159, 162–164
 - Canary (*Serinus canaria*). *See* passerines
 - cannibalism, 113, 122, 32, 135–136, 220
 - carbamazepine (Tegretol), 208–209
 - carnivore, 37, 54, 65, 217, 219, 221
 - castration. *See also* neutering
 - camelids, 164
 - ferrets, 63
 - gerbils, 119
 - lizards, 55–56
 - rats, 112–113
 - sugar gliders, 183
 - caudal luring, 28
 - cecotrope, 70, 72, 86, 139, 144
 - chelonians
 - behavior problems, 40
 - enrichment/training, 41–42
 - history, 33
 - husbandry, 34–36
 - ingestive behavior, 37
 - locomotion, 36–37
 - pain, 40–41
 - reproductive behavior, 39–40
 - senses/communication, 33–34
 - social behavior, 37–39
 - chew/ing, 191, 195, 197, 200–201
 - chinchillas, 141, 143, 144, 145, 146
 - ferrets, 66
 - gerbils, 123–124
 - hamsters, 136
 - hedgehogs, 172
 - mice, 98
 - prairie dogs, 151, 155

- psittacines, 3, 6–7, 9, 210
 - rabbits, 75–76
 - rats, 112
 - chinchillas (*Chinchilla lanigera*)
 - body care, 140–141
 - domestication, 139
 - enrichment, 144
 - handling, 142, 145–146
 - husbandry, 143–144
 - ingestive behavior, 142–143
 - natural history, 138–139
 - neonatal development, 141–142
 - parental behavior, 141–142
 - reproduction, 141
 - senses/communication, 139–140
 - social behavior, 142
 - chlorazepate, 208
 - chlorpheniramine, 210
 - chromatophores, 47, 52
 - chromodacryorrhoea, 107
 - circadian rhythms, 25, 46, 118, 213
 - circannual, 46
 - classical conditioning, 191
 - cloaca/l
 - chelonians, 34, 38–39
 - lizards, 46, 52
 - snakes, 22–23, 28–29
 - sugar gliders, 182, 183, 186
 - cloacal prolapse, 9, 28, 207, 213
 - clomipramine (Anafranil), 209–212
 - clonazepam, 208
 - clutch
 - chelonians, 39–40
 - lizards, 53
 - passerines, 13, 14, 18
 - psittacines, 3, 5
 - cockatiels. See psittacines.
 - cognition, maternal effects on, 111
 - colonial breeding, 3
 - commensalism, 104
 - communication
 - camelids, 159–160
 - chelonians, 33–34
 - chinchillas, 139–140, 143
 - gerbils, 118–119, 121
 - guinea pigs, 79
 - hamsters, 127–130
 - hedgehogs, 169
 - lizards, 44, 46, 51–52
 - mice, 92–93, 97
 - passerines, 15–17
 - prairie dogs, 149–150
 - psittacines, 4
 - rabbits, 70
 - rats, 105–107
 - snakes, 21–22, 28
 - sugar gliders, 183–184
 - compulsive, 8
 - cones, 59, 79, 92, 106, 150
 - convergence, orbital, 182
 - coprophagy, 72, 111, 134
 - due to stress, 184
 - copulation
 - camelids, 161–162
 - chelonians, 39
 - chinchillas, 141
 - ferrets, 61, 64
 - gerbils, 118, 121
 - guinea pigs, 82
 - hedgehogs, 176
 - lizards, 52
 - mice, 95–96, 98
 - passerines, 13–14
 - prairie dogs, 153
 - psittacines, 3
 - rabbits, 72
 - rats, 104–105, 107
 - snakes, 22, 28–29
 - sugar gliders, 186
 - corpus striatum, 212
 - corticosterone, 17–18
 - corticotropin releasing hormone (CRH), 82
 - cortisol, 82–84, 132, 134–135, 183, 192
 - counter conditioning, 7, 9, 55, 178
 - coterie, 149–150, 152–154
 - courtship
 - camelids, 161
 - chelonians, 34, 39
 - chinchillas, 141
 - gerbils, 121
 - guinea pigs, 78
 - hedgehogs, 169–170, 176
 - lizards, 44, 51–53
 - mice, 92, 95
 - passerines, 13–16, 18
 - psittacines, 2–5
 - rabbits, 71
 - rats, 105
 - snakes, 22, 29
 - crepuscular, 27, 48, 70, 78, 92, 106, 118, 142
 - cross-fostering, 64, 129, 134, 177
 - crypsis, 51, 54
 - cursorial, 134
- D**
- Dalila effect (see also barbering), 100
 - defense, 207, 212
 - camelids, 159–160, 163
 - chelonians, 39
 - chinchillas, 139, 145
 - gerbils, 118
 - hamsters, 129
 - lizards, 51, 55–56
 - mice, 96
 - passerines, 14, 18
 - prairie dogs, 153
 - psittacines, 1, 3–4, 8
 - rats, 105, 111–112
 - snakes, 22, 23
 - deme, 93–95
 - demonstrator effect, 111
 - depression, 183, 208–210, 212, 213
 - depth perception, 106–107, 150, 185
 - desensitization, 7, 9, 55, 135, 145, 178, 192
 - diazepam (Valium), 208–209
 - dichromatic, 79, 106
 - diestrus, 85, 110, 129
 - diet
 - camelids, 164
 - chelonians, 34, 37, 40

- diet (*continued*)
 chinchillas, 141, 143
 ferrets, 65
 gerbils, 121–123
 guinea pigs, 86
 hamsters, 134–135
 hedgehogs, 170–171
 lizards, 48, 54–55
 mice, 94, 99
 prairie dogs, 151, 154
 psittacines, 2, 5, 6, 9
 rabbits, 72
 rats, 105, 111
 snakes, 23, 27, 30
 sugar gliders, 185, 187
- differential reinforcement, 198
- digging
 chelonians, 35–36, 42
 ferrets, 66
 gerbils, 118, 120, 122, 124
 hamsters, 127, 131, 133–134
 lizards, 50, 53, 56
 mice, 99
 prairie dogs, 148, 151
 rabbits, 75–77
- diurnal, 2, 22, 25, 46–49, 55, 78, 118, 148, 150, 213
- domestic/ated, 215, 217, 220
 camelids, 157–159
 chinchillas, 139
 gerbils, 118
 guinea pigs, 78–79
 ferrets, 59, 62–63
 hamsters, 127
 hedgehogs, 168
 lizards, 44
 passerines, 16, 17
 psittacines, 7
 rabbits, 69, 71–72, 75–76
 rats, 104–105
 sugar gliders, 182
- dominance, 190, 191, 220
 camelids, 159–164
 chelonians, 38
 chinchillas, 142
 ferrets, 60, 63
 gerbils, 118, 120–121
 guinea pigs, 79–80, 82, 84, 87
 hamsters, 129, 132
 lizards, 52
 mice, 94–95, 99–100
 passerines, 15, 17
 prairie dogs, 153
 psittacines, 2
 rabbits, 70, 74
 rats, 104, 107, 109, 112
 sugar gliders, 183–184, 186
- dopamine, 207–208, 210, 212
- dorsomedial thalamus, 81
- doxepin (Sinequan), 209, 211
- drinking behavior
 camelids, 165
 chelonians, 35–36
 ferrets, 65
 hamsters, 134
 hedgehogs, 171
 lizards, 48
 mice, 94
 snakes, 25
- dust bath, 140–141, 143
- dyads, 132
- dysecdysis, 25
- E**
- ecdysis, 30, 53
- echolocation, 107, 129, 140
- ectothermic, 24, 35, 219
- endotherm, 24, 30, 219
- enrichment, 199, 207, 220, 221
 chelonians, 35, 37–38, 40–42
 chinchillas, 142, 144
 gerbils, 122–123
 guinea pigs, 80, 84, 86
 hamsters, 135–136
 lizards, 56
 mice, 98–99
 passerines, 18
 psittacines, 5–8, 10
 rabbits, 76–77
 rats, 108, 112
 snakes, 24, 30
 sugar gliders, 187–188
- epilepsy, 124, 208
- escape behavior
 camelids, 161
 chelonians, 42
 chinchillas, 140, 146
 ferrets, 63
 gerbils, 118, 123–124
 guinea pigs, 81
 hamsters, 131
 hedgehogs, 178
 lizards, 51, 56
 mice, 95, 99
 psittacines, 7
 rabbits, 70–71
 rats, 109
 snakes, 30
- estrogen, 53, 64, 84, 133–134
- estrus/estrous
 camelids, 160–162
 chinchillas, 141–142
 ferrets, 64
 gerbils, 119, 121–122
 guinea pigs, 79, 82, 84–85
 hamsters, 129, 132–133
 hedgehogs, 175, 177
 mice, 95
 rabbits, 71
 rats, 104, 110, 113
 sugar gliders, 186
- European polecat (*Mustela putorius*). *See* ferrets
- European rabbit (*Oryctolagus cuniculus*). *See* rabbits
- eutherians, 185
- explore/exploration
 ferrets, 61
 guinea pigs, 78, 83, 85–86
 hedgehogs, 173
 prairie dogs, 153, 155
 psittacines, 7, 9
 rabbits, 76–77

- extinction burst, 197
 extrapyramidal, 212
- F**
- FAID worksheet (Functional assessment and intervention design), 195–196
- fear
 chinchillas, 140, 142, 145–146, 177
 ferrets, 59, 61–62, 66
 hamsters, 135
 and learning, 191–192, 197
 lizards, 51, 56
 psittacines, 5–7, 9, 10
 rabbits, 71, 74–75
 rats, 107, 111–112
 treatment of, 207–210
 and welfare, 216
- feather plucking or picking, 5, 7–8, 19, 207, 208–213
- feeding behavior. *See* ingestive behavior;
 specific species
- feral, 91, 93–95, 104, 217
- ferrets, domesticated (*Mustela putorius furo*)
 behavior problems, 65–67
 body care, 60
 elimination, 65
 housing, 63–64
 ingestive behavior, 65
 locomotion, 60–61
 maternal behavior, 64–65
 natural history, 59
 reproductive behavior, 64
 sensory systems, 59–60
 social behavior, 61–63
- fetal diapause, 186
- fight/ing
 camelids, 163
 chinchillas, 141
 ferret, 62–63
 gerbils, 119, 121, 123
 guinea pigs, 81
 hamsters, 128, 130–133
 hedgehogs, 170, 175
 lizards, 54
 mice, 94
 passerines, 15, 18
 prairie dogs, 149, 152–153
 psittacines, 9
 rabbits, 74
 rats, 105, 107–109, 112
 sugar gliders, 184
- finches. *See* passerines
- fitness, reproductive, 15, 28, 95, 118, 121, 136, 153
- five freedoms, 24, 26, 47, 155, 216
- flehmen, 160, 176
- flight, 2, 4, 6–7, 9, 15, 23, 30, 105, 109, 216
- flooding, 7, 192
- fluorescent, 4, 5, 25, 49
- fluoxetine (Prozac), 8, 208–210
- follicle stimulating hormone (FSH), 213
- forage/foraging, 217, 220
 camelids, 165
 chelonians, 37–39, 41–42
 chinchillas, 141
 ferrets, 63
 gerbils, 122–123
 guinea pigs, 78, 86
 hamsters, 134
 hedgehogs, 169–171, 174, 177
 lizards, 48–49, 54–56
 mice, 93–94, 98–99
 passerines, 12–14, 18–19
 prairie dogs, 149–154
 psittacines, 1–2, 4–8
 rats, 111
 snakes, 27
 sugar gliders, 184–185, 187–188
- fossorial, 21, 24, 46–47, 50, 82, 151
- fostering, 3, 134
- frustration, 98, 197, 220, 221
- fur-chewing, 144
- fur slip, 139, 145–146
- G**
- gabapentin (Neurontin), 8, 208–209
- Gamma-amino-butyric acid (GABA), 207–208
- Gerbils, Mongolian (*Meriones unguiculatus*)
 behavior problems, 123–124
 body care, 119–120
 development, 122
 enrichment, 123
 handling, 124
 housing, 122–123
 ingestive behavior, 122
 locomotion, 120
 parental behavior, 122
 reproductive behavior, 121
 senses/communication, 118–119
 social behavior, 120–121
 taxonomy, 117
 wild behavior, 118
- gestation length
 chinchillas, 138
 ferrets, 64
 gerbils, 122
 guinea pigs, 85
 hamsters, 133
 hedgehogs, 176
 mice, 96
 prairie dogs, 153
 rabbits, 72
 rats, 110
 sugar gliders, 186
- Gonadotropin inhibitory hormone (GnIH), 213
- gonadotropin releasing hormone (GnRH), 212
- granivorous, 134
- green iguana (*Iguana iguana*). *See* lizards
- grooming. *See* body care.
- guanaco (*Lama guanicoe*). *See* camelids
- guinea pig (*Cavia aperea*)
 behavior problems, 86–87
 handling, 87
 history, 78–79
 ingestive behavior, 86
 locomotion, 82
 maternal behavior, 85–86
 reproductive behavior, 84–85
 senses, 79–81
 social behavior, 82–84
 vocalizations, 81–82

H

habituate/ion, 70, 75, 124, 145, 176–178, 217, 220

haloperidol, 209, 211–212

hamsters

- behavior problems, 135–136
- body care, 131–132
- communication, 127–131
- handling, 135
- housing, 131–132
- ingestive behavior, 134
- maternal behavior, 134–135
- reproductive behavior, 132–134
- social behavior, 132
- taxonomy, 127–128
- thermoregulation, 132

handling, 220

- camelids, 159, 165
- chelonians, 40
- chinchillas, 142, 145
- gerbils, 123–124
- hamsters, 135
- hedgehogs, 176–178
- lizards, 50, 55
- mice, 99
- prairie dogs, 148
- psittacines, 7–9
- rabbits, 75
- rats, 112–113
- snakes, 23, 26, 30
- sugar gliders 188

Harderian gland, 22, 107, 119–121, 129

hedgehogs

- behavior problems, 177–178
- body care, 171–172
- defensive behavior, 173–174
- elimination behavior, 171
- handling, 178–179
- hibernation, 172–173
- history, 168–169
- housing, 175
- ingestive behavior, 170–171
- locomotion, 173
- maternal behavior, 176–177
- nest building, 172–173
- reproductive behavior, 175–176
- self-annointing, 172
- senses/communication, 169–170
- social behavior, 174–175

heliothermic, 47–48

herbivore, 37, 54, 72, 138, 142, 164

heterothermy, 24

hibernation, 22, 29–30, 36, 51–52, 132, 168, 172–173

home range, 63, 78–79, 93–94, 110, 172, 174–175

hypothalamus, 24, 29, 64

- hypothalamic pituitary axis (HPA), 80, 82, 84

I

Iguanas. *See* lizards

indeterminate layers, 13

induced ovulation, 72, 161, 176

infanticide, 99, 104–105, 113, 219

ingestive behavior

- camelids, 164–165
- chelonians, 37

chinchillas, 142–143

ferrets, 65

gerbils, 122

guinea pigs, 86

hamsters, 134

hedgehogs, 170–171

lizards, 54–55

mice, 94

passerines, 13

prairie dogs, 154

rabbits, 72–73

rats, 111

snakes, 27–28

sugar gliders, 187

innate behaviors, 4, 15, 105, 119

intrauterine position, 83, 121

isolation effects, 3, 8, 54, 83, 85–87, 121, 155, 220

J

Jacobsons organ. *See* vomeronasal organ

K

kindling, 72

kinship, 62

L

latrines, 70–71, 73, 79

law of effect, 192

learned helplessness, 192

Lee-Boot effect, 95

leuprolide acetate (Lupron depot), 9, 209, 212–213

lizards

- behavior problems, 55–56
- development, 53–54
- history, 44
- husbandry, 47–50
- ingestive behavior, 54–55
- locomotion, 50–51
- maternal behavior, 53–54
- pain, 56
- predator defense, 51–52
- reproductive behavior, 52–53
- senses/communication, 44, 46–47
- social behavior, 51
- taxonomy, 45

llama (*Lama glama*). *See* camelids

locomotion

- camelids, 164
 - chelonians, 36–37
 - chinchillas, 140
 - ferrets, 60
 - gerbils, 120
 - guinea pigs, 81–82
 - hedgehogs, 173
 - lizards, 50–51
 - mice, 92–93, 98
 - prairie dogs, 151
 - rats, 105, 108
 - snakes, 24, 26–27
 - sugar gliders, 181, 185
- locus coeruleus, 210
- lorazepam, 208
- lordosis, 85, 110, 121, 129, 131, 133, 176
- luteinizing hormone, 212

M

marking-like behavior, 119
 masturbation, 8–9, 207, 212
 matching law, 199
 maternal behavior
 camelids, 162
 chelonians, 40
 ferrets, 64
 gerbils, 122
 guinea pigs, 85–86
 hamsters, 129–130, 134–135
 hedgehogs, 169, 176
 lizards, 53–54
 mice, 96
 prairie dogs, 153
 rats, 109–111, 113
 snakes, 29–30
 melatonin, 207, 213
 monoamine oxidase inhibitors, 210–211
 monochromatic, 92
 monogamy/monogamous, 3, 12–13, 52, 118, 120, 123, 133
 motion parallax, 106–107, 113
 mouse /house mouse (*Mus musculus*)
 behavior problems, 99–100
 body care, 93–94
 development, 96–97
 handling, 99
 history, 91–92
 husbandry, 98–99
 ingestive behavior, 94
 locomotion, 92–93
 maternal behavior, 96–97
 reproductive behavior, 95–96
 senses, 92
 social behavior, 94–95
 multiparous, 85–86

N

naloxone, 208
 naltrexone, 208
 neophobia, 133, 142
 neuroendocrine, 5, 121
 neuter, 59, 71–72, 74–75, 77, 107, 110, 112–113, 150, 154–155
 nocturnal, 22, 27, 48, 59, 61, 65, 92, 97,
 106–107, 118, 127–128, 134, 139–140, 142, 144, 169, 178, 181–182,
 184, 213, 219
 norepinephrine, 209–211
 nurse/nursing, 64, 72, 83, 85–86, 96, 109, 111, 118, 122, 134–135, 141,
 153–154, 160, 162, 177

O

obsessive-compulsive disorder, 100, 208, 209
 olfactory/olfaction
 chelonians, 33–34, 39, 41–42
 chinchillas, 139
 ferrets, 59–60, 64
 gerbils, 118–120, 122
 guinea pigs, 79–81, 83, 85–86
 hamsters, 127–130, 133
 hedgehogs, 169, 172, 175
 mice, 92–93, 96–97
 prairie dogs, 150
 rats, 105, 107
 snakes, 22–23
 sugar gliders, 184

olive, lateral and medial superior, 140
 omnivore, 37, 54, 94, 111, 184
 open field (test), 83
 operant conditioning, 6, 10, 146, 191–193, 199
 ophiophagous, 28
 opioid, 31, 208–209
 oxazepam, 208
 oviparous, 21, 52–53

P

paedomorphic, 138, 182
 pain
 camelids, 159–160
 chelonians, 40–41
 chinchillas, 144
 ferrets, 61
 guinea pigs, 81
 hamsters, 135
 hedgehogs, 170
 lizards, 51, 56
 management, 207, 208
 mice, 99–100
 neuropathic, 208, 211
 psittacines, 7
 rabbits, 70, 75
 rats, 107
 snakes, 31
 and welfare, 216
 paraventricular nucleus, 213
 parental behavior. *See* maternal or paternal; specific species
 parietal eye, 46
 paroxetine, 8, 210
 parthenogenesis, 30, 52
 parturition
 camelids, 162–163
 chinchillas, 142
 gerbils, 122
 guinea pigs, 85
 hamsters, 133–134
 hedgehogs, 176–177
 mice, 96, 98
 prairie dogs, 152
 rabbits, 72
 rats, 111
 sugar gliders, 183
 passerines
 activity, 12
 aggression, 15
 behavior problems, 17–19
 breeding behavior, 13–15
 communication, 15–17
 feeding behavior, 13
 flock behavior, 12–13
 paternal behavior, 122, 134
 periventricular gray matter, 81
 pheromones, 22, 29, 34, 52, 93, 105, 119, 121, 160, 169
 piloerection, 109, 130, 191
 pineal gland, 24, 29, 46, 213
 piscivorous, 27
 pit organs (thermal pits), 23
 pituitary gland, 29
 play
 camelids, 163
 chelonians, 42
 chinchillas, 142, 145,

- play (*continued*)
 ferrets, 61–63, 66
 gerbils, 119
 guinea pigs, 82
 hamsters, 132
 mice, 96
 prairie dogs, 150–152, 154–155
 psittacines, 4, 5, 8–9
 rabbits, 76, 77
 rats, 105, 107–109
- plug, copulatory or vaginal, 29, 96, 110, 141, 176
- polyandry, 2, 95
- polyestrus, 121, 132, 141, 186
- polygamous, 176
- polygynandry, 2
- polygyny, 3
- prairie dogs (*Cynomys spp*)
 behavior problems, 155
 body care, 151
 ingestive behavior, 154
 locomotion, 151–152
 maternal behavior, 153–154
 natural history, 148
 neutering, 154–155
 reproductive behavior, 153
 senses/communication, 149–151
 social behavior, 152–153
- precocial, 69, 138, 141, 219
- proestrus, 84, 110
- progesterone, 133
- promiscuous, 118, 176
- pseudopregnancy, 64, 110, 133
- psittacines
 behavior problems, 5–10
 communication, 4–5
 diet, 2
 flock behavior, 1–2
 parental care, 3–4
 reproductive behavior, 2–4
- punishers/ment, 192–193, 197–198, 200–201
- R**
- rabbits,
 affiliative behaviors, 72
 behavior problems, 74–76
 coprophagy, 72–73
 enrichment, 76–77
 history, 69
 ingestive behavior, 72
 introductions, 74
 litter training, 73–74
 locomotion, 71–72
 reproductive behavior, 72
 senses/communication, 70–71
 social organization, 69–70
 warrens, 70
- Rathke's glands, 34
- rats (*Rattus norvegicus*)
 behavior problems, 112–113
 body care, 107–108
 communication, 107
 gnawing, 111–112
 handling, 113
 history, 104
 ingestive behavior, 111
 locomotion, 108
 maternal behavior, 110–111
 reproductive behavior, 110
 senses, 105–107
 social behavior, 108–110
 wild rat behavior, 104–105
- recognition, individual, 39, 60, 79–80, 128–130, 184, 186, 188
- reinforcers/ment, 10, 192–199
- repetitive behaviors. *See* stereotypies
- reproductive behavior
 camelids, 161, 162
 chelonians, 39
 chinchillas, 141
 ferrets, 60, 64
 gerbils, 119, 121
 guinea pigs, 83–85
 hamsters, 132–133
 hedgehogs, 175–176
 lizards, 52–53
 mice, 95–96
 prairie dogs, 153
 psittacines, 2–3
 rats, 105, 110
 snakes, 22, 29–30
- respondent, 191–193
- response blocking. *See* flooding
- response-stimulus (R-S), 191
- restraint. *See also* handling
 guinea pigs, 87
 pharmaceuticals for, 208, 212
- reticular activating system, 212
- retrieval, pup, 96, 111, 119, 122
- reward/s, 9, 10, 18, 135, 169, 178, 193
- ritualized behavior/displays, 2, 4, 16, 51, 70, 74
- rods, 70, 79, 92, 106, 150, 169
- running wheels. *See* wheels
- S**
- scent marking
 ferrets, 61
 gerbils, 118–121, 123
 guinea pigs, 79–80, 82, 85
 hamsters, 128–130
 hedgehogs, 172, 174
 rabbits, 71
 rats, 107, 110, 111
 sugar gliders, 183–184, 187
- schizophrenia, 208, 212
- scramble competition, 104
- seizures. *See* epilepsy
- selective serotonin reuptake inhibitor (SSRI), 8, 209–210
- selegiline, 210
- self anointing, 172
- self mutilation, 7–8, 144, 184, 208, 210–212
- semifossorial, 151
- serotonin, 8, 207–211, 213, 221
- sexual behavior. *See* reproductive behavior; specific species
- shaping. *See* approximations
- Siberian hamster (*Phodopus sungorus*).
See hamsters
- snakes
 behavior problems, 30–31
 handling, 26
 history, 21

- housing, 25–26
 - husbandry, 23–25
 - ingestive behavior, 27–28
 - locomotion, 26–27
 - maternal behavior, 29–30
 - pain, 31
 - reproductive behavior, 29–30
 - senses and communication, 21–23
 - social behavior, 28
 - social/social behavior
 - camelids, 158–160, 162–163, 165
 - chelonians, 37–40
 - chinchillas, 139–140, 142–144
 - ferrets, 59–61, 63
 - gerbils, 118–121, 123–124
 - guinea pigs, 78–86
 - hamsters, 129–130, 132, 134
 - hedgehogs, 169, 174–175
 - lizards, 46, 51–52, 54
 - mice, 92, 94–96, 98–100
 - passerines, 18–19
 - prairie dogs, 149–153, 155
 - psittacines, 1–9
 - rabbits, 69–71, 74
 - rats, 104–109, 111
 - snakes, 2, 28–29
 - sugar gliders, 181–184, 188
 - sociopositive, 78, 82
 - somatosensory cortex, 92
 - sourcing and transportation of exotics, 217–218
 - South American camelids. *See* camelids
 - spontaneous ovulators, 121
 - stereotypy, 6, 40–42, 98–99, 122, 124, 136, 144, 219
 - treatment of, 207–208, 212
 - stimulus-response (S-R), 191
 - stimulus-stimulus (S-S), 191
 - stress/stressors, 199, 207–208, 210, 212, 216–218, 220–221
 - camelids, 159, 165
 - chelonians, 34–38, 40–41
 - chinchillas, 140, 143–146
 - ferrets, 64
 - gerbils, 119, 122–124
 - guinea pigs, 78, 81–84
 - hamsters, 131–132, 134–136
 - hedgehogs, 178
 - lizards, 47, 49–50, 54–55
 - mice, 94, 96, 100
 - rabbits, 71, 74
 - rats, 107–108, 113
 - snakes, 30–31
 - sugar glider, 184–185, 188
 - strike behavior, 23, 28, 31
 - submissive behaviors, 2, 51, 71, 131, 159
 - suckle/suckling, 72, 122, 162, 177, 186
 - sugar gliders (*Petaurus breviceps*)
 - activity patterns, 184
 - communication, 183–184
 - development, 186
 - handling, 188
 - husbandry, 187–188
 - ingestive behavior, 187
 - introductions, 184
 - locomotion, 185–186
 - natural history, 181–182
 - reproductive behavior, 186
 - social behavior, 182–183
 - torpor, 185
 - supplant, 15, 17, 192
 - synchronize, 2, 13, 36, 163, 184
 - syndactyl, 51, 181
 - Syrian hamster (*Mesocricetus auratus*). *See* hamsters
- T**
- TCA. *See* tricyclic antidepressants
 - tactile
 - chelonians, 39, 42
 - chinchillas, 139
 - guinea pigs, 81, 85
 - hamsters, 130
 - hedgehogs, 169
 - lizards, 47
 - mice, 92
 - passerines, 14
 - rats, 105
 - snakes, 21, 23
 - tardive dyskinesia, 212
 - taxonomy, 218, 221
 - camelids, 158
 - gerbils, 117
 - hamsters, 128
 - lizards, 44, 45
 - prairie dogs, 148
 - rabbits, 69
 - telencephalon, 16, 22
 - temperature
 - body or cloacal, 3, 132, 182
 - environmental, 219, 221
 - camelids, 158, 162
 - chelonians, 36, 40, 41
 - chinchillas, 140
 - ferrets, 64
 - gerbils, 118–121
 - hamsters, 131–132
 - hedgehogs, 173, 175
 - lizards, 44, 47–49, 51–53, 55
 - mice, 91, 93, 96
 - passerines, 14
 - psittacines, 8
 - rabbits, 76
 - snakes, 23–30
 - sugar gliders, 182, 184–186, 188
 - terrapins. *See* chelonians
 - territory/ial
 - camelids, 160, 163
 - chelonians, 34
 - chinchillas, 143
 - ferrets, 60–61
 - gerbils, 118–121, 123
 - guinea pigs, 79, 82
 - hamsters, 129, 133
 - hedgehogs, 174
 - lizards, 46–47, 51, 55
 - mice, 94–97, 99
 - passerines, 16
 - psittacines, 3–4, 9
 - rabbits, 74
 - rats, 104
 - sugar gliders, 184, 188
 - testosterone, 14, 16–17, 51, 60–61, 84–85, 107, 122, 132–133, 183
 - tetrachromatic, 4, 17

- thermal pits. *See* pit organs
 thermophilic response, 27, 30
 thermoregulation, 212, 218–219
 gerbils, 119
 hamsters, 132
 lizards, 46–47, 49
 mice, 96, 98
 snakes, 24, 26
 thigmotactic, 92–93, 97–98
 thigmothermy, 24
 thymus, 80
 tongue flicking, 22–24, 29, 46, 53
 torpor, 132, 173, 184–185
 tortoises. *See* chelonians
 tramadol, 210
 trauma, 7, 27, 39–40, 56, 75, 135, 165, 192, 207–208, 222, 312
 trazodone, 210
 trichotillomania, 8, 87, 100
 tricyclic antidepressants (TCAs), 209–211
 trigeminal nerve, 22
 tryptophan, 207, 210, 213
 tunnels, 64, 70, 76, 118, 120, 131–132, 136
 turtles. *See* chelonians
 tympana, 33, 46
 tyrosine, 207, 210
- U**
 ultrasound/ultrasonic communication, 220
 gerbils, 118–119
 guinea pigs, 80
 hamsters, 128–130, 133
 mice, 92, 95–97
 rats, 205–107, 110
 ultraviolet, communication
 chelonians, 33
 lizards, 46
 mice, 92, 97
 passerines, 17
 psittacines, 4
 rats, 106
 urine marking
 ferrets, 60
 mice, 94
 rats, 105, 107, 113
- V**
 vaginal marking, 129–130, 133
 Van der Walls forces, 51
 Vandenbergh effect, 96
 vibrational receptors, 21
 vibrissae (tactile vibrissae), 92, 105–106, 130, 140
 vicuña (*Lama vicugna*). *See* camelids
 vigilance, 70, 208, 210, 213
 vision
 chinchillas, 139–140, 145
 ferrets, 59
 gerbils, 118
 guinea pigs, 79
 hamsters, 127, 130
 hedgehogs, 169
 lizards, 46, 55
 mice, 92, 96
 passerines, 17
 prairie dogs, 150
 psittacines, 4
 rabbits, 70
 rats, 105–106
 snakes, 27
 viviparous, 21, 52–53
 vocalizations
 chelonians, 38–39
 chinchillas, 140, 142
 ferrets, 61
 gerbils, 118–119
 guinea pigs, 81, 85
 hedgehogs, 169, 170
 mice, 95
 passerines, 15–16
 prairie dogs, 149
 psittacines, 2–4, 7, 10
 rabbits, 70
 rats, 105, 107, 110
 vomeronasal system
 chelonians, 33–34, 37, 39
 chinchilla, 139
 hamsters, 129, 130
 hedgehogs, 169
 ferrets, 60
 gerbils, 119
 guinea pigs, 79, 80
 lizards, 46
 mice, 92
 rats, 105
 snakes, 22–23, 29
- W**
 warren, 64, 69, 70–73, 75–76
 wean/ing
 ferrets, 65
 gerbils, 121
 guinea pigs, 83, 85–86
 hamsters, 132–134
 hedgehogs, 176–177
 mice, 96, 99
 prairie dogs, 154
 psittacines, 4–5
 rats, 105, 110–112
 sugar gliders, 186
 welfare, 215–222
 assessment, 221
 strategy, 218
 wheel, wheel running, 98, 120, 124, 131, 133, 136, 152, 175, 188
 whisker barrel, 92
 whiskers, 92, 96, 100, 105–106, 109, 111, 130, 169
 whisker trimming (see barbering).
 Whitten effect, 95
- Z**
 zoonotic, 149, 218
 zygodactyls, 1, 51