



The Marmoset Brain in Stere

The Marmoset Brain in Stereotaxic Coordinates

Xavier Palazzi · Nicole Bordier

The Marmoset Brain in Stereotaxic Coordinates

Xavier Palazzi
Biomatech
Chasse-sur-Rhône
France
x.palazzi@biomatech.fr

Nicole Bordier
Pfizer Amboise
France
nicole.bordier@hotmail.fr

ISBN: 978-0-387-78384-0 e-ISBN: 978-0-387-78385-7
DOI: 10.1007/978-0-387-78385-7

Library of Congress Control Number: 2008924611

© 2008 Springer Science+Business Media, LLC

All rights reserved. This work may not be translated or copied in whole or in part without the written permission of the publisher (Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA), except for brief excerpts in connection with reviews or scholarly analysis. Use in connection with any form of information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed is forbidden.

The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

While the advice and information in this book are believed to be true and accurate at the date of going to press, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper
springer.com

Our families

*Our colleagues who helped building scientific
excellence at Pfizer Amboise during the last 30 years.*

Preface

Laboratory-bred common marmosets (*Callithrix jacchus*) have a natural lifespan in captivity in excess of 12 years, and their maximum longevity is more than 16 years. Due to its small size, its relatively easy adaptation to laboratory conditions and neuroanatomical similarities with human species, this animal is considered to represent a convenient primate model for neurosciences and drug development.

During our research and due to scarce available literature data in this species, a need for some support regarding the morphological interpretation of autoradiographic data and brain anatomy was raised. Based on existing stereotaxic equipment and technological skills, we decided to build a basic atlas of the marmoset brain in stereotaxic coordinates. Several technical difficulties were addressed, and the final document is now ready after 2 years of hard work. We hope this atlas will provide a comprehensive guide for those – researchers and undergraduates – interested in the marmoset brain, tissue target characterization and comparative anatomy. The nomenclature and atlas presentation were inspired from existing reference brain atlases in other species, and the quality of illustrations was achieved thanks to automated whole slide scanning.

We would be pleased to receive comments from the delineations we have made, so that continuous improvement could be made in future editions.

France
France

Xavier Palazzi
Nicole Bordier

Acknowledgements

We express our deep appreciation to Catherine George and Helmut Sterz for their support in a difficult operational environment.

We thank Diane Stephenson, Mike Rigby, Marie-Anne Colle, Marie-Thérèse Masson and Paul Deslex for their scientific help during the review process.

We are indebted to Christian Jobit and Pascal Brizard for their technical assistance.

We also thank all our colleagues from the pathology department for their daily support.

About the Authors



Dr. Xavier Palazzi is a senior veterinary pathologist currently working at Biomatech-NAMSA in France where he is in charge of evaluating the preclinical safety and efficacy of medical devices. He received his DVM from Lyon veterinary school in 1998 and his French certification in veterinary pathology in 2001. He then became a diplomate of the European College of Veterinary Pathology in 2003. Hired in 2004 by Pfizer Global R&D in Amboise (France), he was put in charge of Investigative Pathology until 2007 and developed stereotaxy combined with laser capture microdissection in the marmoset in order to measure mRNA expression of selected brain nuclei for some CNS projects.



Nicole Bordier is an experienced histotechnologist and electron microscopist. She was in charge of the resin laboratory in Drug Safety Research and Development at Pfizer Amboise (France) until 2008, where she developed expert techniques in neurobiology.

Contents

1. Introduction	1
2. Surgery and Stereotaxic Approach	1
3. Histology	3
3.1. Freezing	3
3.2. Sectioning	3
3.3. Staining	3
4. Data Capture	4
5. Reference Planes and Stereotaxic Accuracy	4
6. Nomenclature	5
7. List of Structures	5
8. Index of Abbreviations	8
9. List of Major Brain Areas	11
10. Conclusion	11
11. References	11
12. Plates	12

1 Introduction

The marmoset (*Callithrix jacchus*) is a New World primate that is used in toxicology as a non-rodent species and more broadly, in the field of neurosciences. Among non-human primates, the marmoset represents a species of choice given its small size (14–18 cm, 400 g), biosafety, ease of handling and ethical considerations. It also allows for reducing the use of Macaques that fall under the Washington declaration. When pharmaceutical bulk is the limiting factor, the marmoset enables to progress a project rapidly to clinical phase and there is now a broad industry history of use and regulatory acceptance. It also appears to be a valuable animal model to study central nervous system (CNS) neurodegenerative diseases.

Due to little published data in this species, generating robust historical database and references is a challenge for scientists to establish leadership in the use of this model in preclinical or mechanistic studies (Saavedra, 1968; Stephan, 1980; Eidelberg, 1960). There has not been any modern brain atlas in this species commercially available since the 1980 s, so our project consisted in the generation of a new brain atlas in stereotaxic coordinates, to be made available to the scientists who work on CNS-related targets.

Consequently, pre-existing stereotaxic equipment and stereotaxy expertise had to be adapted to the marmoset. Our team benefited from the animal specimens that were used as controls in toxicology studies in order to build an atlas that would satisfy researcher's needs.

2 Surgery and Stereotaxic Approach

The study protocol was first submitted then validated by Pfizer Amboise Ethical Committee.

About 9 control adult animals (5 males and 4 females), 26–30 months old and weighing between 370 and 460 g were selected from toxicity studies. The females were used to establish the methodology, and the males permitted the validation. Furthermore, one of the males was finally used to create the original set of plates supplied in this atlas.

The animals were euthanized by an overdose of 18% sodium pentobarbitone. The animals were then positioned in a Kopf® stereotaxic frame for small animals (Cat. No. 963). The stereotaxic frame was equipped with two eye bars, two atraumatic 45° ear bars and a teeth holder (Cat. No. 948 Kopf®).

The head was positioned in the stereotaxic frame so that anterior and posterior commissures belong to the same horizontal plane, which was confirmed by histology.

Skin and muscles were then removed from the skull.

Electrodes were marked with indeleble ink, the implantation areas were marked and the skull was drilled at the precise locations. Then several electrodes were implanted post-mortem vertically and horizontally as follows:

- two electrodes (0.5 mm in diameter, 28 mm in length) were inserted vertically at +5 and –5 mm mediolaterally to bregma and left in situ in order to define the coronal plane of section and materialize the position of bregma (Fig. a). This coronal plane of section was later used as a reference for the razor blade at cryomicrotomy.
- one electrode (0.5 mm in diameter, 35 mm in length) was submitted to an electrical current and was inserted orthogonally to the coronal plane, caudorostrally at +3 and –3 mm of the midline and at 4, 6, 9 and 12 mm above the interaural line (Fig. b). This procedure allowed the precise alignment of the histological plates on the interaural line.



Fig. a Skull of *Callithrix jacchus* positioned in the stereotaxic frame. Holes have been drilled before the insertion of electrodes laterally to bregma

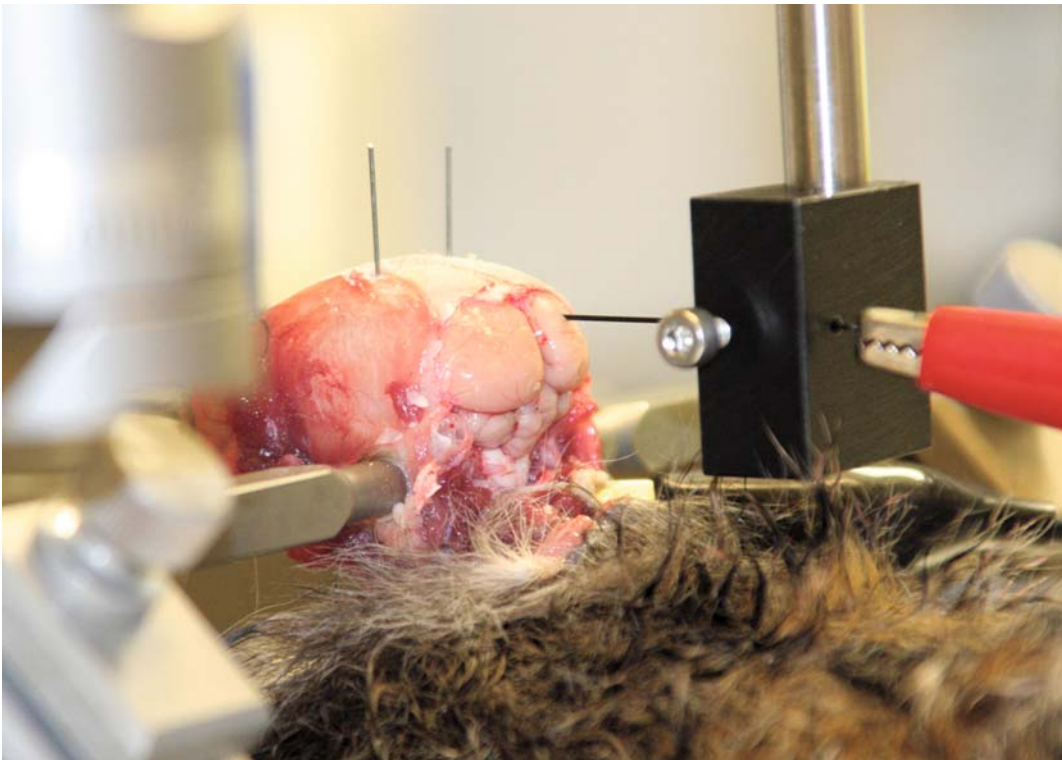


Fig. b Skull of *Callithrix jacchus* positioned in the stereotaxic frame. After implantation of vertical electrodes, the bones are carefully dissected before implanting horizontal electrodes caudorostrally. Bones and meninges were carefully removed and the brain exposed

3 Histology

3.1 Freezing

The brains were removed from the skull and placed in a mold containing OCT Compound™ embedding medium (Fig. c), then snap frozen in an isopentane jar cooled by dry ice. The blocks were then stored at -80°C prior to sectioning.

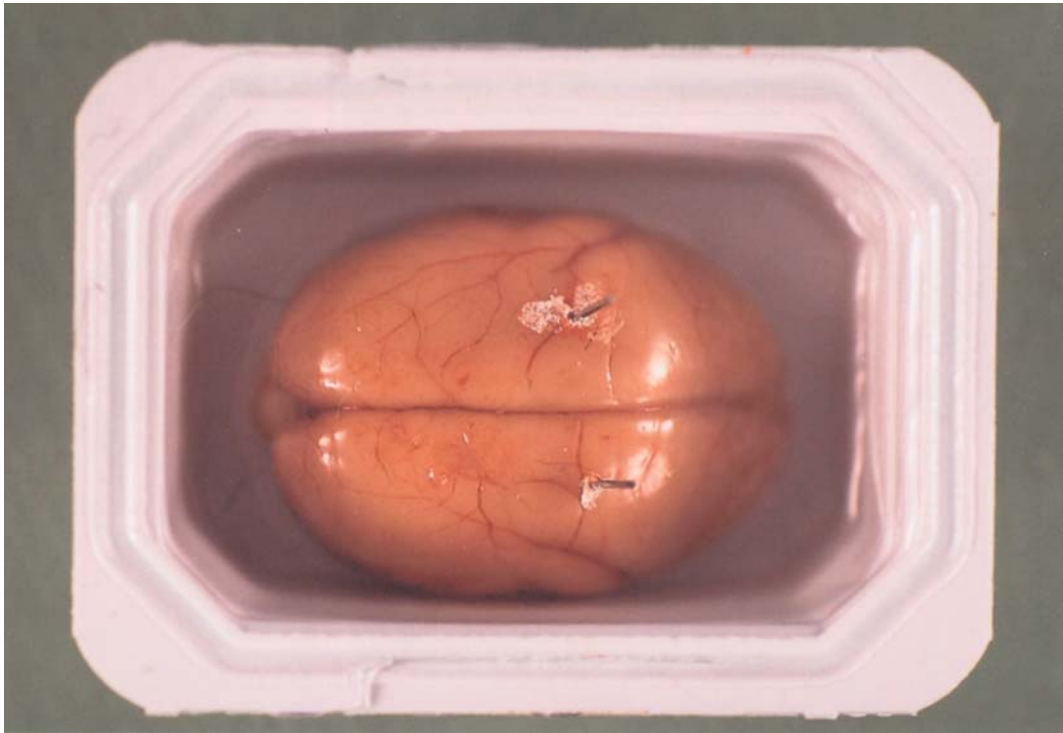


Fig. c After removal from the skull, the brain is embedded in OCT™ prior to freeze drying in isopentane cooled by dry ice

3.2 Sectioning

Frozen brains were cut on a MICROM International GmbH HM 560 MV at $20\ \mu\text{m}$. Parallel sections to the stereotaxic coronal plane were obtained by adjusting the angle of cutting to the vertically implanted electrodes.

At each of the 48 levels, six sections were taken on uncoated slides. Adjacent levels were at $500\ \mu\text{m}$ distance from each other.

Slides were stored at -20°C until staining.

3.3 Staining

Two sections were stained at each of the 48 levels, one by acetyl choline esterase (AChE) histochemistry (Kawagishi, 1991) and the other one by cresyl violet histochemistry. Only AChE-stained slides are presented in this atlas; cresyl violet-stained slides were used to help delineate the structures. The method for the demonstration of AChE was adapted from Chayen & Bitensky (1991).

3.3.1 AChE Staining Method

Rinse: 50 mM sodium acetate buffer (3 min)
Incubate: Substrate solution (one night at 37°C)
Rinse: Distilled water (2 × 1 min)
Reveal: 1% ammonium sulphide (10 min)
Rinse: Distilled water (2 × 1 min)
Fix: Lillie 10% formaldehyde (10 min)
Rinse: Distilled water (2 × 1 min)
Dehydrate: 70% alcohol and 100% alcohol (1 min, each)
Xylene: 2 × 3 min
Neutral synthetic resin medium was used to mount glass cover slips.

3.3.2 Solutions

3.3.2.1 50 mM Sodium Acetate Buffer

0.68 g of sodium acetate (trihydrated)
0.1 g of anhydric copper sulphate
0.12 g of glycine
100 ml of distilled water
Lower the pH to 5 with HCl

3.3.2.2 Substrate Solution

100 ml of 50 mM Sodium Acetate Buffer
116 mg of *S*-acetylthiocholine iodide

4 Data Capture

Whole histology slides were scanned at a ×40 magnification using the automated Illumea™ system. The resulting virtual slides were then exported to Adobe Photoshop™ CS2 for further contrast optimization. All files were processed in .tif format. There was no mirror-image drawing and the drawings depict the asymmetries and defects present in the sections.

5 Reference Planes and Stereotaxic Accuracy

Bregma, interaural line and midline were used as references to build the three-dimensional stereotaxic system. These landmarks were used to establish the stereotaxic grid and legends on each plate.

The number at the bottom right of each plate shows the anteroposterior distance from bregma.

The numbers on the left margin show the dorsoventral distance from the horizontal plane passing through the interaural plane.

The numbers on the bottom margin show the distance of structures from the midline.

One lateral and one ventral schematic brain diagram were added in order to figure the level of section. The stereotaxic reference grid shows 1 mm intervals.

In order to check for technical artefacts, fresh brains were measured rostrocaudally and mediolaterally. These measurements were repeated post-freezing for comparison. The overall variability was found to be less than 3%, so it was decided not to perform any mathematic adjustment of stereotaxic coordinates.

6 Nomenclature

English nomenclature was preferred to Latin terms, except for certain instances where there was no equivalent (Carpenter, 1991). For consistency between species and stable neuroanatomical nomenclature, our nomenclature was compared with the excellent reference atlases from Paxinos in Rhesus monkey and rat and similar terms were used as often as possible (Paxinos, 1995; Paxinos & Watson, 1986; Paxinos & Huang, 2000), (Mai, 2004).

Major cerebral regions have been delineated and labelled on the left side of each plate, while details appear on the right side.

An index and a list of structures were created in order to facilitate the use of this document.

7 List of Structures

A

Abducens nucleus, 6 N
 Accumbens nucleus, core AcbC
 Accumbens nucleus, shell AcbSh
 Alveus of the hippocampus, alv
 Ansiform lobule of the cerebellum, ans
 Anterior cingulate gyrus, ACg
 Anterior amygdaloid area, AA
 Anterior commissure, ac
 Anterior commissure, anterior part aca
 Anterior commissure, posterior part acp
 Amygdalohippocampal area, AHi
 Anterior olfactory nucleus, AO
 Aqueduct, Aq
 Arcuate hypothalamic nucleus, Arc
 Azygos anterior cerebral artery, azac
 Azygos pericallosal artery, azp

B

Basal interstitial, BI
 Basal nucleus (Meynert), B
 Basolateral amygdaloid nucleus, BL
 Basolateral amygdaloid nucleus, dorsal part BLD
 Basolateral amygdaloid nucleus, dorsolateral part
 BLDL
 Basolateral amygdaloid nucleus, intermediate part BLI
 Basolateral amygdaloid nucleus, ventromedial part
 BLVM
 Basomedial amygdaloid nucleus, BM
 Basomedial amygdaloid nucleus, magnocellular part
 BMMC
 Basomedial amygdaloid nucleus, parvicellular part
 BMPC
 Basomedial amygdaloid nucleus, parvicellular part,
 ventral division BMPCV
 Bed nucleus of the stria terminalis, BST
 Bed nucleus of the stria terminalis, intraamygdaloid
 division BSTIA
 Brachium of the inferior colliculus, bic
 Brachium of the superior colliculus, bsc

C

Calcarine sulcus, cal
 Caudate nucleus, Cd

Central amygdaloid nucleus, lateral division, CeL
 Central amygdaloid nucleus, medial division CeM,
 Central canal, CC,
 Central medial thalamic nucleus, CM,
 Central nucleus of the inferior colliculus, CIC
 Central tegmental tract, ctg
 Cerebellar lobule 1, Cb1
 Cerebellar lobule 10, Cb10
 Cerebellar lobule 2, Cb2
 Cerebellar lobule 3, Cb3,
 Cerebellar lobule 4, Cb4,
 Cerebellar lobule 5, Cb5
 Cerebellar lobule 6, Cb6
 Cerebellar lobule 7, Cb7
 Cerebellar lobule 8, Cb8
 Cerebellar lobule 9, Cb9
 Cerebral peduncle, basal part cp,
 Choroid plexus, chp
 Cingulate cortex, Cg
 Claustrum, Cl
 Commissure of the inferior colliculus, cic
 Copula of the pyramis, Cop
 Corona radiata, cr,
 Corpus callosum, cc,
 Crus 1 of the ansiform lobule, Crus1
 Crus 2 of the ansiform lobule, Crus2,
 Cuneate nucleus, Cu,
 Cuneate fasciculus cu
 Cuneiform nucleus, CnF,

D

Decussation of the superior cerebellar
 peduncle, xscp,
 Deep mesencephalic nucleus, DpMe
 Dorsal 3rd ventricle, D3V,
 Dorsal cortex of the inferior colliculus, DCIC
 Dorsal endopiriform nucleus, DEN
 Dorsal lateral geniculate nucleus, DLG,
 Dorsal nucleus of the lateral lemniscus, DLL
 Dorsal paraflocculus, DPF1
 Dorsal raphe nucleus, DR
 Dorsal spinocerebellar tract, dsc
 Dorsal tegmental nucleus, DTg

Dorsomedial hypothalamic nucleus, DM
 Dorsomedial hypothalamic nucleus, compact part,
 DMC

E

Edinger–Westphal nucleus, EW
 Entorhinal cortex, Er
 External capsule, ec
 External cortex of the inferior colliculus, ECIC
 External cuneate nucleus, ECu
 External globus pallidus, EGP
 External medullary lamina, eml
 Extreme capsule, ex

F

Facial nucleus, 7N
 Fasciculus retroflexus, fr
 Field CA1 of hippocampus, CA1
 Field CA3 of hippocampus, CA3
 Field CA4 of hippocampus, CA4
 Fimbria of the hippocampus, fi
 Flocculus, Fl
 Fornix, f
 Frontal cortex, Fr

G

Genu of the facial nerve, g7
 Gigantocellular reticular nucleus, Gi
 Gracile fasciculus, gr
 Gracile nucleus, Gr
 Granular layer of the dentate gyrus GrDG

H

Hippocampal fissure, hf
 Hippocampus, CA
 Hippocampus supracommissuralis, HR
 Hypoglossal nucleus, 12N

I

Indusium griseum, IG
 Inferior cerebellar peduncle (restiform body), icp
 Inferior olive, IO
 Inferior pulvinar, IPul
 Infundibular stem, InfS
 Insularis cortex, CIn
 Intermediate nucleus of the lateral lemniscus, ILL
 Internal capsule, ic
 Internal carotid artery, ictd
 Internal globus pallidus, IGP
 Interpeduncular fossa, IPF
 Interpeduncular nucleus, IP
 Interpeduncular nucleus, caudal subnucleus IPC
 Interpeduncular nucleus, rostral subnucleus IPR
 Interpeduncular nucleus, lateral subnucleus IPL
 Interposed cerebellar nucleus, Int

Interposed cerebellar nucleus, anterior
 part IntA,
 Interposed cerebellar nucleus, posterior part IntP,

L

Lacunusum moleculare layer of the hippocampus,
 LMol
 Lateral corticospinal tract, lscp
 Lateral (dentate) cerebellar nucleus, Lat
 Lateral amygdaloid nucleus, La
 Lateral dorsal thalamic nucleus, superficial part
 LDSF,
 Lateral fissure, lf
 Lateral geniculate artery, lga
 Lateral hypothalamic area, LH
 Lateral habenular nucleus, LHB
 Lateral lemniscus, ll
 Lateral mammillary nucleus, LM
 Lateral medullary lamina, lml
 Lateral olfactory tract, lo
 Lateral parabrachial nucleus, LPB
 Lateral pulvinar, LPul
 Lateral reticular nucleus, LRt
 Lateral septal nucleus, dorsal part LSD,
 Lateral septal nucleus, intermediate part LSI,
 Lateral septal nucleus, ventral part LSV,
 Lateral ventricle, LV
 Lateral vestibulospinal tract, lvsp
 Lenticular fasciculus, lenf
 Longitudinal fasciculus of the pons, lfp,

M

Magnocellular layer of the caudal spinal trigeminal
 nucleus, MC5
 Medial amygdaloid nucleus, Me
 Medial (fastigial) cerebellar nucleus, Med,
 Medial eminence, external layer MEE,
 Medial eminence, internal layer MEI,
 Medial geniculate nucleus, dorsal part MGD,
 Medial geniculate nucleus, medial part MGM,
 Medial geniculate nucleus, ventral part MGV
 Medial habenular nucleus, MHb
 Medial lemniscus, ml
 Medial longitudinal fasciculus, mlf,
 Medial mammillary nucleus, lateral part ML,
 Medial mammillary nucleus, medial part MM
 Medial medullary lamina, mml
 Medial parabrachial nucleus, MPB
 Medial pulvinar, MPul
 Medial septal nucleus, MS
 Median raphe nucleus, MnR
 Mediodorsal thalamic nucleus, central part MDC,
 Mediodorsal thalamic nucleus, dorsal part MDD,
 Mediodorsal thalamic nucleus, lateral part MDL,
 Mediodorsal thalamic nucleus, medial part MDM,

Middle cerebellar peduncle, mcp
 Middle cerebral artery, mcer
 Molecular layer of the dentate gyrus, Mol
 Motor and premotor cortex, MPr
 Motor trigeminal nucleus, Mo5

N

Nucleus of the brachium of the inferior colliculus,
 BIC
 Nucleus of the horizontal limb of the diagonal band,
 HDB
 Nucleus of the vertical limb of the diagonal
 band, VDB

O

Occipital cortex, OcC
 Occipitotemporal sulcus, ots
 Oculomotor nerve or its root, 3 n
 Olivary nuclei, On
 Olivocerebellar tract, oc
 Optic chiasm, ox
 Optic nerve, 2 n
 Optic tract, opt

P

Parabigeminal nucleus, PBG
 Paracollicular tegmentum, PCTg
 Paralambdoid septal nucleus, PLd
 Paramedian lobule, PM
 Paramedian raphe nucleus, PMnR
 Paramedian reticular nucleus, PMn
 Parasubiculum, PaS
 Paraventricular hypothalamic nucleus, parvicellular
 part PaP
 Paraventricular thalamic nucleus, PV
 Parietal cortex, PaC
 Parvicellular reticular nucleus, PCRT
 Pedunculopontine tegmental nucleus, compact part
 PPTgC
 Pedunculopontine tegmental nucleus, diffuse part
 PPTgD
 Periaqueducal gray, PAG
 Peripeduncular nucleus, PP
 Pineal gland, Pi
 Polymorph layer of the dentate gyrus, PoDG
 Pontine nuclei, Pn
 Pontine reticular nucleus, oral part PnO
 Posterior cerebral artery, pcer
 Posterior commissure, pc
 Posterior hypothalamic area, PH
 Posterior paraflocculus, PPF1
 Prepositus nucleus, Pr
 Presubiculum, PrS
 Prosubiculum, ProS
 Pulvinar nuclei, Pul

Putamen, Pu
 Pyramidal cell layer of the hippocampus, Py
 Pyramidal decussation, pyx
 Pyramidal tract, py

R

Recess of the inferior colliculus, ReIC
 Red nucleus, magnocellular part RMC,
 Red nucleus, parvicellular part RPC,
 Reticular thalamic nucleus, Rt
 Reticulotegmental nucleus of the pons, RtTg
 Reuniens thalamic nucleus, Re
 Rostrum of the corpus callosum, rcc

S

Sagulum nucleus, Sag
 Septofimbrial nucleus, SFi
 Septohippocampal nucleus, SHi
 Simple lobule, Sim
 Solitary nucleus, Sol
 Spinal trigeminal nucleus, Sp5
 Spinal trigeminal tract, p5
 Spinothalamic tract, spth
 Stratum lucidum of the hippocampus, Lu
 Stria medullaris of the thalamus, sm
 Stria terminalis, st
 Subcommissural organ, SCO
 Subfornical organ, SFO
 Subiculum, S
 Substantia nigra, SN
 Subthalamic nucleus, STh
 Superior cerebellar peduncle (brachium
 conjunctivum), scp
 Superior colliculus, SC
 Superior medullary velum, SMV,
 Supragenual nucleus, SGe
 Supramammillary nucleus, SuM
 Supraoptic decussation, sox
 Supraoptic nucleus, retrochiasmatic part SOR,

T

Tectospinal tract, ts,
 Temporal cortex, TE

V

Ventral anterior cortical nucleus of the amygdale, VACo
 Ventral anterior thalamic nucleus, lateral part VAL,
 Ventral anterior thalamic nucleus, medial part VAM,
 Ventral cochlear nucleus, anterior part VCA,
 Ventral cochlear nucleus, posterior part VCP,
 Ventral cortical amygdaloid nucleus, VCo
 Ventral hippocampal commissure, vhc
 Ventral horn, VH
 Ventral lateral geniculate nucleus, VLG
 Ventral lateral thalamic nucleus, lateral part VLL,
 Ventral lateral thalamic nucleus, medial part VLM,

Ventral nucleus of the lateral lemniscus, VIL
 Ventral pallidum, VP
 Ventral paraflocculus, VPF1
 Ventral posterolateral thalamic nucleus, VPL
 Ventral posteromedial thalamic nucleus, VPM
 Ventral spinocerebellar tract, vsc
 Ventral tegmental area, VTA

Ventromedial hypothalamic nucleus, VMH
 Vestibular nuclei, VeN

Z

Zonal layer of the superior colliculus, Zo
 Zona incerta, ZI

8 Index of Abbreviations

Abbreviations are given in alphabetical order followed by their full meaning and the plate numbers where these are mentioned. They were built so as to give an intuitive idea of the structure they represent. They were also aligned on reference neuroanatomical atlases in other laboratory animal species by Paxinos.

2 n optic nerve, 13
 3 n oculomotor nerve or its root, 17–21
 3 V 3rd ventricle, 14–22
 4 n trochlear nerve or its root, 26–30
 4 V 4th ventricle, 30–37
 4x trochlear decussation, 30
 6 N abducens nucleus, 31–32
 6 n root of abducens nerve, 27
 7 N facial nucleus, 31–33
 12 N hypoglossal nucleus, 37

A

AA anterior amygdaloid area, 13–15
 ac anterior commissure, 14–16
 aca anterior commissure, anterior part, 11–13
 AcbC accumbens nucleus, core, 10–13
 AcbSh accumbens nucleus, shell, 10–13
 ACg anterior cingulate gyrus, 4–5
 acp anterior commissure, posterior part, 14–18
 AHi amygdalohippocampal area, 19
 alv alveus of the hippocampus, 19–29
 ans ansiform lobule of the cerebellum, 38–40
 AO anterior olfactory nucleus, 5–8
 Aq aqueduct, 23–29
 Arc arcuate hypothalamic nucleus, 17–20
 azac azygos anterior cerebral artery, 9–10
 azp azygos pericallosal artery, 9–20, 24–25

B

B basal nucleus (Meynert), 14–20
 BI basal interstitial, 37
 BIC nucleus of the brachium of the inferior colliculus, 29
 bic brachium of the inferior colliculus, 27–30
 BL basolateral amygdaloid nucleus, 13–14
 BLD basolateral amygdaloid nucleus, dorsal part, 15–16
 BLDL basolateral amygdaloid nucleus, dorsolateral part, 15
 BLI basolateral amygdaloid nucleus, intermediate part, 15–18
 BLVM basolateral amygdaloid nucleus, ventromedial part, 15–16

BM basomedial amygdaloid nucleus, 13–15
 BMMC basomedial amygdaloid nucleus, magnocellular part, 15–16
 BMPC basomedial amygdaloid nucleus, parvicellular part, 16
 BMPCV basomedial amygdaloid nucleus, parvicellular part, ventral division, 15
 bsc brachium of the superior colliculus, 26–28
 BST bed nucleus of the stria terminalis, 14–17
 BSTIA bed nucleus of the stria terminalis, intraamygdaloid division, 19–20

C

CA hippocampus, 17–18
 CA1 field CA1 of hippocampus, 19–29
 CA3 field CA3 of hippocampus, 19–28
 CA4 field CA4 of hippocampus, 21–29
 cal calcarine sulcus, 30–45
 Cb1 cerebellar lobule 1, 32–34
 Cb10 cerebellar lobule 10, 35–37
 Cb2 cerebellar lobule 2, 30–34
 Cb3 cerebellar lobule 3, 31–34
 Cb4 cerebellar lobule 4, 33–35
 Cb5 cerebellar lobule 5, 33–42
 Cb6 cerebellar lobule 6, 33–43
 Cb7 cerebellar lobule 7, 39–47
 Cb8 cerebellar lobule 8, 38–47
 Cb9 cerebellar lobule 9, 38–42
 CC central canal, 38–41
 cc corpus callosum, 9–29
 Cd caudate nucleus, 8–28
 CeL central amygdaloid nucleus, lateral division, 15–17
 CeM central amygdaloid nucleus, medial division, 15–18
 Cg cingulate cortex, 6–26
 chp choroid plexus, 26
 CIC central nucleus of the inferior colliculus, 29–32
 cic commissure of the inferior colliculus, 31
 CIn insularis cortex, 9–25
 Cl claustrum, 13–24
 CM central medial thalamic nucleus, 18
 CnF cuneiform nucleus, 30

- Cop copula of the pyramis, 38–43
 cp cerebral peduncle, basal part, 20–24
 cr corona radiata, 7–23
 Crus1 crus 1 of the ansiform lobule, 38–43
 Crus2 crus 2 of the ansiform lobule, 38–43
 ctg central tegmental tract, 25
 Cu cuneate nucleus, 36–40
 cu cuneate fasciculus, 39–41
- D**
 D3 V dorsal 3rd ventricle, 23–26
 DCIC dorsal cortex of the inferior colliculus, 29–32
 DEn dorsal endopiriform nucleus, 14
 DLG dorsal lateral geniculate nucleus, 21–25
 DLL dorsal nucleus of the lateral lemniscus, 27
 DM dorsomedial hypothalamic nucleus, 18–19
 DMC dorsomedial hypothalamic nucleus compact part, 18
 DPF1 dorsal paraflocculus, 36–37
 DpMe deep mesencephalic nucleus, 21–28
 DR dorsal raphe nucleus, 26–28
 dsc dorsal spinocerebellar tract, 38–41
 DTg dorsal tegmental nucleus, 29–30
- E**
 ec external capsule, 13–24
 ECIC external cortex of the inferior colliculus, 29–32
 ECu external cuneate nucleus, 36–38
 EGP external globus pallidus, 14–20
 eml external medullary lamina, 21–28
 Er entorhinal cortex, 13–23
 EW Edinger–Westphal nucleus, 23
 ex extreme capsule, 13–24
- F**
 f fornix, 17–21
 fi fimbria of the hippocampus, 23–28
 Fl flocculus, 36
 Fr frontal cortex, 1–12
 fr fasciculus retroflexus, 23–24
- G**
 g7 genu of the facial nerve, 31–32
 Gi gigantocellular reticular nucleus, 31–36
 Gr gracile nucleus, 38–41
 gr gracile fasciculus, 41
 GrDG granular layer of the dentate gyrus, 20–29
- H**
 HDB nucleus of the horizontal limb of the diagonal band, 11–14
 hf hippocampal fissure, 20–29
 HR hippocampus supracommissuralis, 30
- I**
 ic internal capsule, 9–26
 icp inferior cerebellar peduncle (restiform body), 31–37
 ictd internal carotid artery, 17
 IG indusium griseum, 14–19
 IGP internal globus pallidus, 17–20
 ILL intermediate nucleus of the lateral lemniscus, 27
 InfS infundibular stem, 16
 Int interposed cerebellar nucleus, 34–35
 IntA interposed cerebellar nucleus, anterior part, 36–37
 IntP interposed cerebellar nucleus, posterior part, 36–38
 IO inferior olive, 31–37
 IP interpeduncular nucleus, 26
 IPC interpeduncular nucleus, caudal subnucleus, 22–24
 IPF interpeduncular fossa, 21
 IPL interpeduncular nucleus, lateral subnucleus, 22–23
 IPR interpeduncular nucleus, rostral subnucleus, 21–24
 IPul inferior pulvinar, 24–26
- L**
 La lateral amygdaloid nucleus, 13–18
 Lat lateral (dentate) cerebellar nucleus, 34–37
 lscsp lateral corticospinal tract, 39
 LDSF lateral dorsal thalamic nucleus, superficial part, 20–22
 lenf lenticular fasciculus, 18–21
 lf lateral fissure, 12–25
 lfp longitudinal fasciculus of the pons, 24–29
 lga lateral geniculate artery, 22
 LH lateral hypothalamic area, 17–20
 LHb lateral habenular nucleus, 25–26
 ll lateral lemniscus, 27–28
 LM lateral mammillary nucleus, 18–19
 lml lateral medullary lamina, 15–21
 LMol lacunosum moleculare layer of the hippocampus, 20–29
 lo lateral olfactory tract, 5–10
 LPB lateral parabrachial nucleus, 31
 LPul lateral pulvinar, 24–27
 LRt lateral reticular nucleus, 35–36
 LSD lateral septal nucleus, dorsal part, 11–16
 LSI lateral septal nucleus, intermediate part, 11–16
 LSV lateral septal nucleus, ventral part, 11–14
 Lu stratum lucidum of the hippocampus, 19
 LV lateral ventricle, 7–32
 lvsp lateral vestibulospinal tract, 38–40
- M**
 m5 motor root of the trigeminal nerve, 26–30
 MC5 magnocellular layer of the caudal spinal trigeminal nucleus, 38–41
 mcer middle cerebral artery, 12–15
 mcp middle cerebellar peduncle, 24–33
 MDC mediodorsal thalamic nucleus, central part, 20–23
 MDD mediodorsal thalamic nucleus, dorsal part, 20
 MDL mediodorsal thalamic nucleus, lateral part, 20–23
 MDM mediodorsal thalamic nucleus, medial part, 20–22
 Me medial amygdaloid nucleus, 15–17
 Med medial (fastigial) cerebellar nucleus, 34–37
 MEE medial eminence, external layer, 17
 MEI medial eminence, internal layer, 17
 MGD medial geniculate nucleus, dorsal part, 24–25

MGM medial geniculate nucleus, medial part, 24–25
 MGv medial geniculate nucleus, ventral part, 24–25
 MHb medial habenular nucleus, 25–26
 ML medial mammillary nucleus, lateral part, 18–20
 ml medial lemniscus, 25–37
 mlf medial longitudinal fasciculus, 25–40
 MM medial mammillary nucleus, medial part, 18–20
 mml medial medullar lamina, 17–20
 MnR median raphe nucleus, 25
 Mo5 motor trigeminal nucleus, 29
 Mol molecular layer of the dentate gyrus, 20–29
 MPB medial parabrachial nucleus, 31
 MPr motor and premotor cortex, 13–19
 MPul medial pulvinar, 24–27
 MS medial septal nucleus, 11–15

O

oc olivocerebellar tract, 33–35
 OcC occipital cortex, 30–48
 On olivary nuclei, 30
 opt optic tract, 16–22
 ots occipitotemporal sulcus, 30–36
 ox optic chiasm, 14–15

P

PaC parietal cortex, 13–37
 PAG periaqueductal gray, 24–32
 PaP paraventricular hypothalamic nucleus, parvicellular part, 16–19
 PaS parasubiculum, 19–25
 PBG parabigeminal nucleus, 27–29
 pc posterior commissure, 23
 pcer posterior cerebral artery, 20–21, 25–28
 PCRt parvicellular reticular nucleus, 30
 PCTg paracollicular tegmentum, 31
 PH posterior hypothalamic area, 18–22
 Pi pineal gland, 27–28
 PLd paralambdoid septal nucleus, 14
 PM paramedian lobule, 41, 44
 PMn paramedian reticular nucleus, 30
 PMnR paramedian raphe nucleus, 25
 Pn pontine nuclei, 22–29
 PnO pontine reticular nucleus, oral part, 26–30
 PoDG polymorph layer of the dentate gyrus, 25–29
 PP peripeduncular nucleus, 22
 PPF1 posterior paraflocculus, 33–37
 PPTgC pedunculopontine tegmental nucleus, compact part, 26
 PPTgD pedunculopontine tegmental nucleus, diffuse part, 26
 Pr prepositus nucleus, 32–34
 ProS prosubiculum, 19–20
 PrS presubiculum, 19–29
 Pu putamen, 10–22
 Pul pulvinar nuclei, 28
 PV paraventricular thalamic nucleus, 22–23
 Py pyramidal cell layer of the hippocampus, 19

py pyramidal tract, 30–38
 pyx pyramidal decussation, 38–41

R

rcc rostrum of the corpus callosum, 9–10
 Re reuniens thalamic nucleus, 19
 ReIC recess of the inferior colliculus, 30
 RMC red nucleus, magnocellular part, 23–24
 RPC red nucleus, parvicellular part, 21–22
 Rt reticular thalamic nucleus, 19–26
 RtTg reticulotegmental nucleus of the pons, 25–27

S

S subiculum, 19–29
 s5 sensory root of the trigeminal nerve, 27–30
 Sag sagulum nucleus, 30
 SC superior colliculus, 26–32
 SCO subcommissural organ, 26
 scp superior cerebellar peduncle (brachium conjunctivum), 28–32
 SFi septofimbrial nucleus, 15–18
 SFO subfornical organ, 18
 SGe supragenual nucleus, 31
 SHi septohippocampal nucleus, 11–18
 Sim simple lobule, 36
 sm stria medullaris of the thalamus, 19–20
 SMV superior medullary velum, 32–33
 SN substantia nigra, 21–25
 Sol solitary nucleus, 36–37
 SOR supraoptic nucleus, retrochiasmatic part, 16–17
 sox supraoptic decussation, 16–20
 Sp5 spinal trigeminal nucleus, 31–36
 sp5 spinal trigeminal tract, 31–41
 spth spinothalamic tract, 36–41
 st stria terminalis, 17–26
 STh subthalamic nucleus, 21
 SuM supramammillary nucleus, 19

T

TE temporal cortex, 12–36
 ts tectospinal tract, 35

V

VACo ventral anterior cortical nucleus of the amygdale, 13–15
 VAL ventral anterior thalamic nucleus, lateral part, 19–20
 VAM ventral anterior thalamic nucleus, medial part, 19
 VCA ventral cochlear nucleus, anterior part, 31–32
 VCo ventral cortical amygdaloid nucleus, 16–17
 VCP ventral cochlear nucleus, posterior part, 33–34
 VDB nucleus of the vertical limb of the diagonal band, 11–13
 VeN vestibular nuclei, 31–37
 VH ventral horn, 38–41
 vhc ventral hippocampal commissure, 28–29
 VLG ventral lateral geniculate nucleus, 21

- VLL ventral lateral thalamic nucleus, lateral part, 19–21
 VIL ventral nucleus of the lateral lemniscus, 27
 VLM ventral lateral thalamic nucleus, medial part, 20–21
 VMH ventromedial hypothalamic nucleus, 18
 VP ventral pallidum, 14–16
 VPF1 ventral paraflocculus, 28–32
 VPL ventral posterolateral thalamic nucleus, 22–23
 VPM ventral posteromedial thalamic nucleus, 22–23
- vsc ventral spinocerebellar tract, 28–29, 40–41
 VTA ventral tegmental area, 21–25
- X**
 xscp decussation of the superior cerebellar peduncle, 24–27
- Z**
 ZI zona incerta, 21
 Zo zonal layer of the superior colliculus, 32

9 List of Major Brain Areas

The major cerebral regions are given by order of apparition and followed by the plate numbers where these are mentioned.

- I. Cerebral cortex (telencephalon), 1–48
- II. Olfactory pathways (telencephalon), 5–10
- III. Corpus striatum and related nuclei (telencephalon) 8–28
- IV. Septum (telencephalon), 11–19
- V. Optic tract (diencephalon), 13–23
- VI. Amygdala (telencephalon), 13–18
- VII. Hypothalamus (diencephalon), 15–22
- VIII. Hippocampus (telencephalon), 17–30
- IX. Thalamus (diencephalon), 17–29
- X. Mesencephalon, 21–32
- XI. Pons (metencephalon), 22–37
- XII. Cerebellum (metencephalon), 24–47
- XIII. Medulla (myelencephalon), 30–41

10 Conclusion

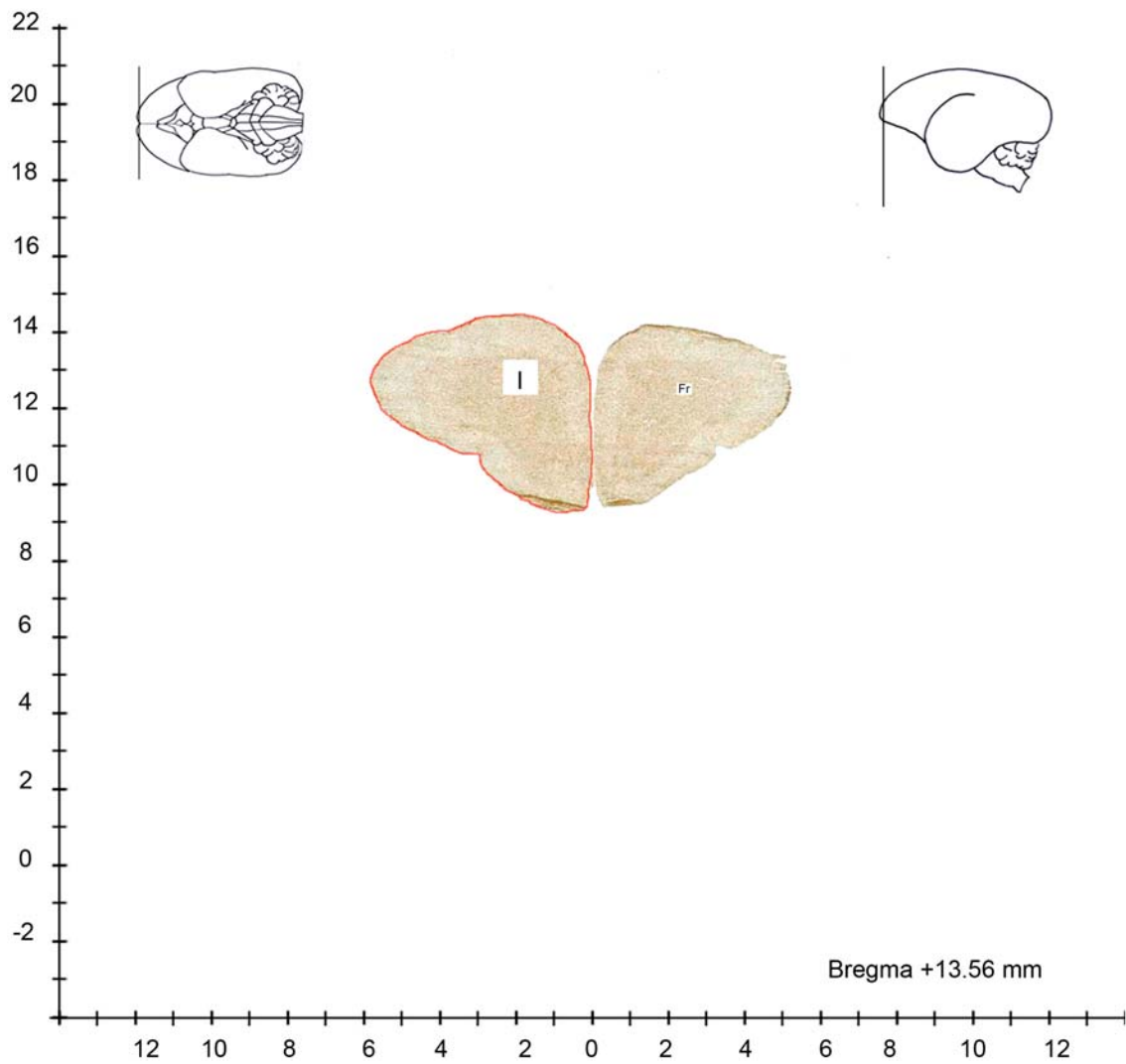
Due to the necessity to better characterize CNS targets, this work sets the basis for further comparison with Cynomolgus monkeys and humans, promoting the marmoset as a highly valuable model for CNS toxicity. It also enables to get an access to brain nuclei and circuitries involved in physiology and pathology. It represents a reference for normal morphology, and it facilitates further messenger RNA characterization at extremely precise locations by laser capture microdissection.

Overall, this atlas will enable scientists to increase their confidence in rationale and safety in this emerging non-rodent model.

11 References

- Carpenter M. (1991). Core text of neuroanatomy. 4th ed. Williams & Wilkins.
 Chayen J., Bitensky L. (1991). Practical histochemistry. 2nd ed. Wiley. 183–185.
 Eidelberg E., Saldias C.A. (1960) A stereotaxic atlas for Cebus monkeys. *J Comp neurol.* 115:103–123.
 Kawagishi S. (1991) Higher activities of acetylcholinesterase and choline acetyltransferase in jaw-opening than jaw-closing motoneurons in the rat. *Archives of oral biology.* 44:197–200.
 Mai J.K., Asshewer J., Paxinos G. (2004) Atlas of the human brain. 2nd ed. Academic Press.
 Paxinos G. (1995). The rat nervous system. 2nd ed. Academic Press.
 Paxinos G., Watson C. (1986). The rat brain in stereotaxic coordinates. 2nd ed. Academic Press.
 Paxinos G., Huang X.F. (2000). The Rhesus monkey brain in stereotaxic coordinates. Academic Press.
 Saavedra J.P., Mazzuchelli A.L. (1968). A stereotaxic atlas of the brain of the marmoset (*hapale jacchus*). *J. Hinforsch*, 11(1):105–122.
 Stephan H., Baron G., Schwedtfeger W.K. (1980). The brain of the common marmoset (*Callithrix jacchus*): a stereotaxic atlas. Springer-Verlag.

12 Plates

**Figure 1**

Fr frontal cortex

I Cerebral cortex (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

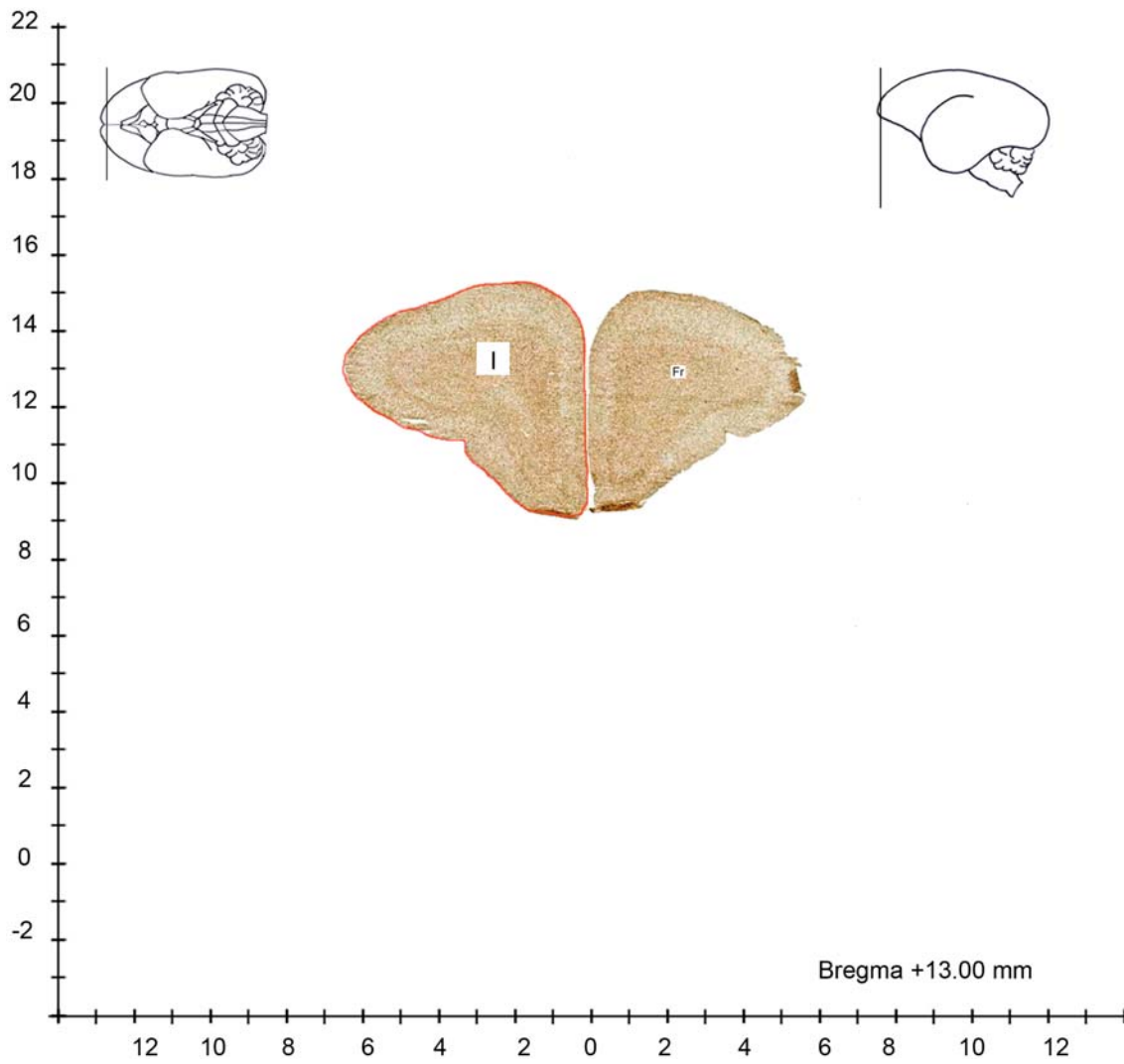


Figure 2

Fr frontal cortex

I Cerebral cortex (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

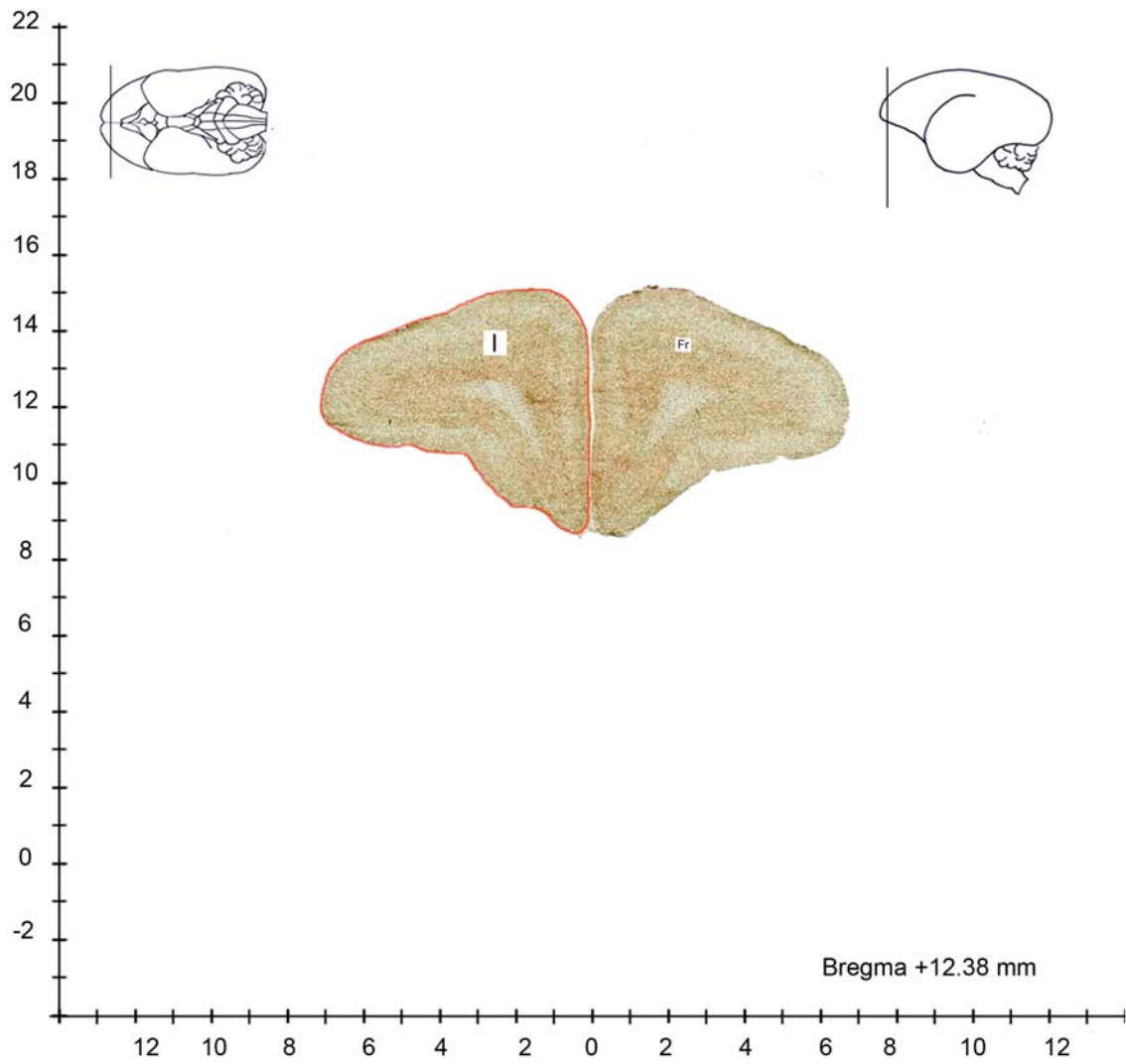


Figure 3

Fr frontal cortex

I Cerebral cortex (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

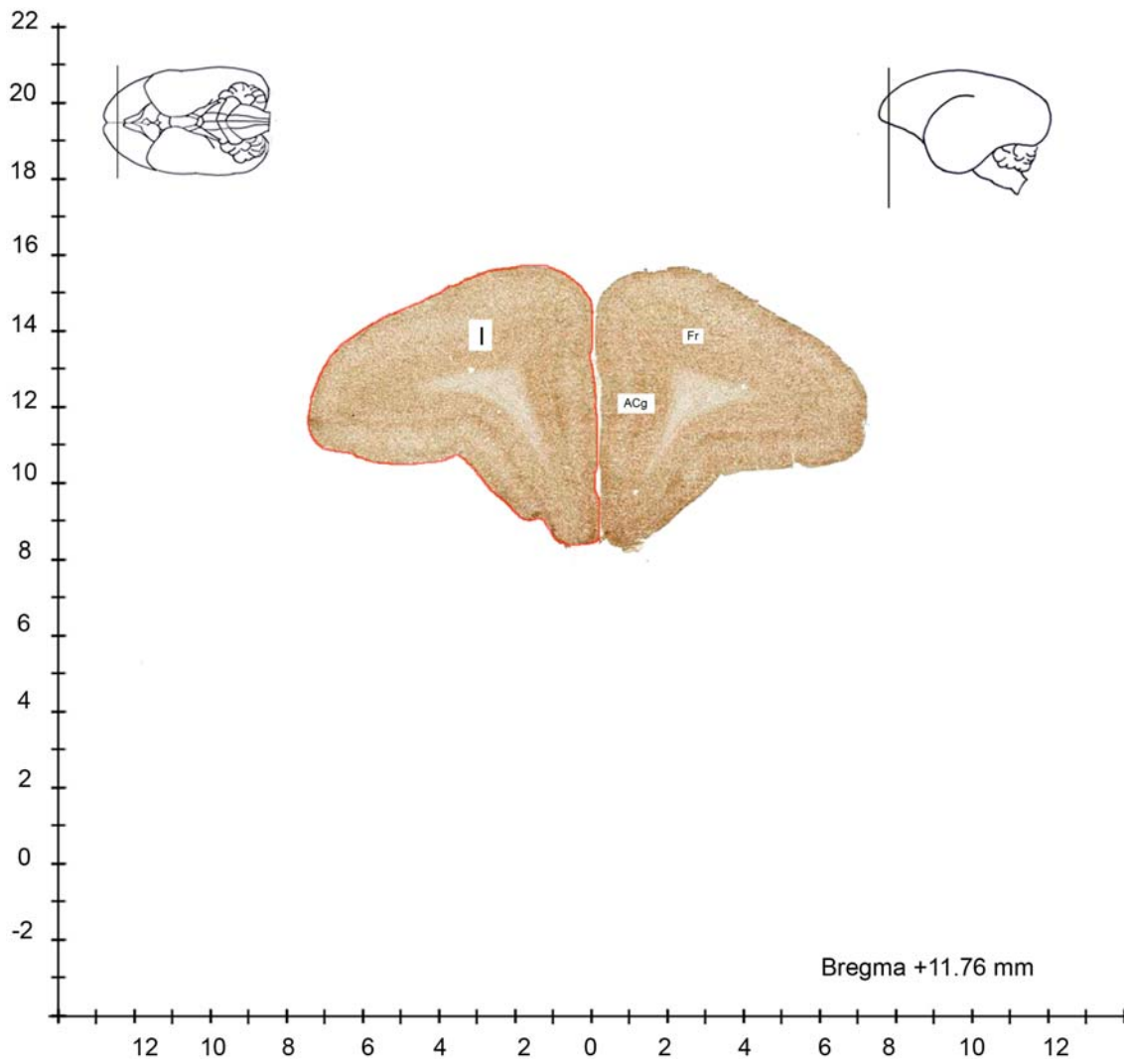


Figure 4

ACg anterior cingulate cortex
Fr frontal cortex

I Cerebral cortex (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

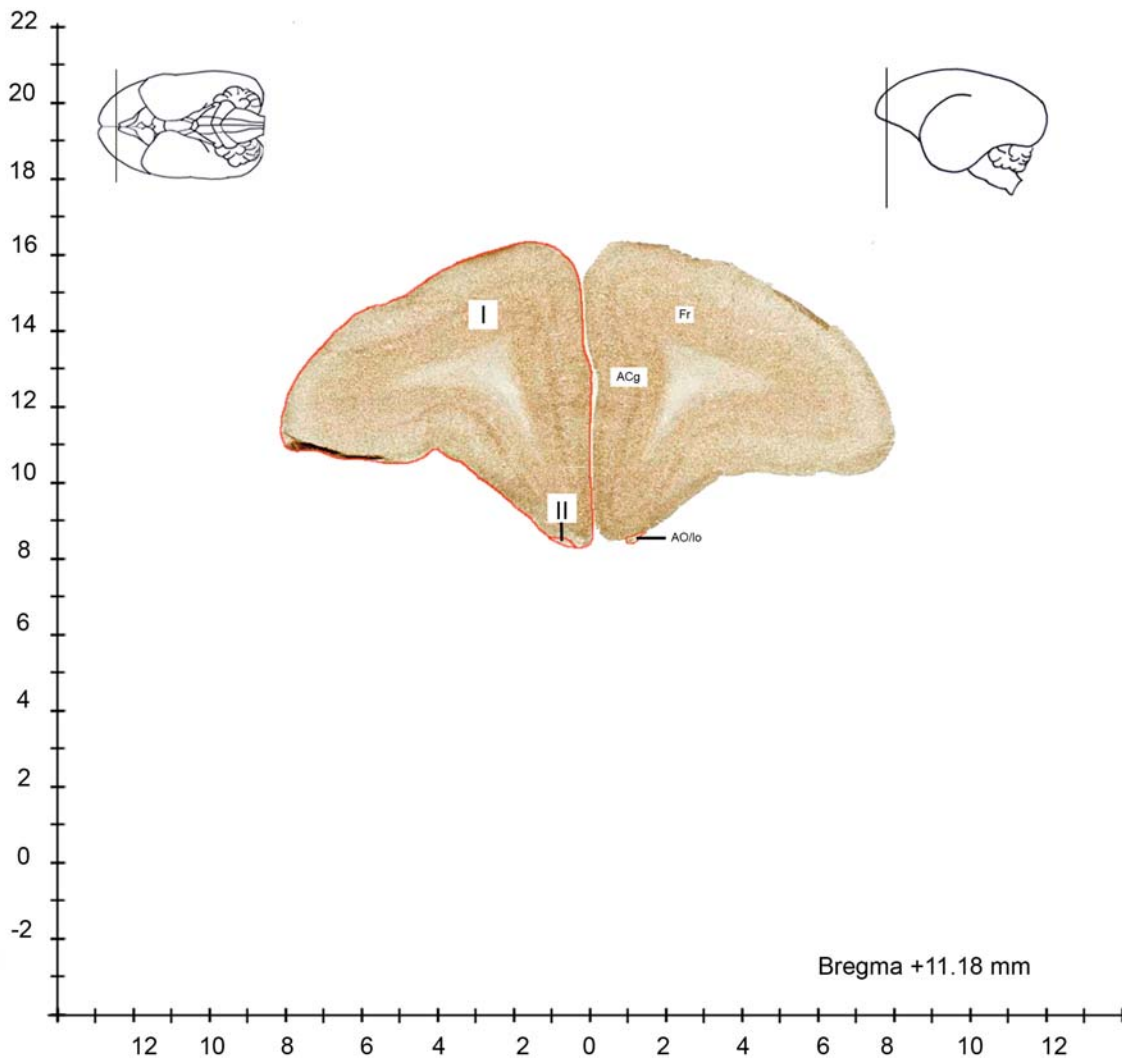


Figure 5

ACg anterior cingulate cortex
 AO anterior olfactory nucleus
 Fr frontal cortex
 lo lateral olfactory tract

I Cerebral cortex (telencephalon)
 II Olfactory pathways (telencephalon).

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

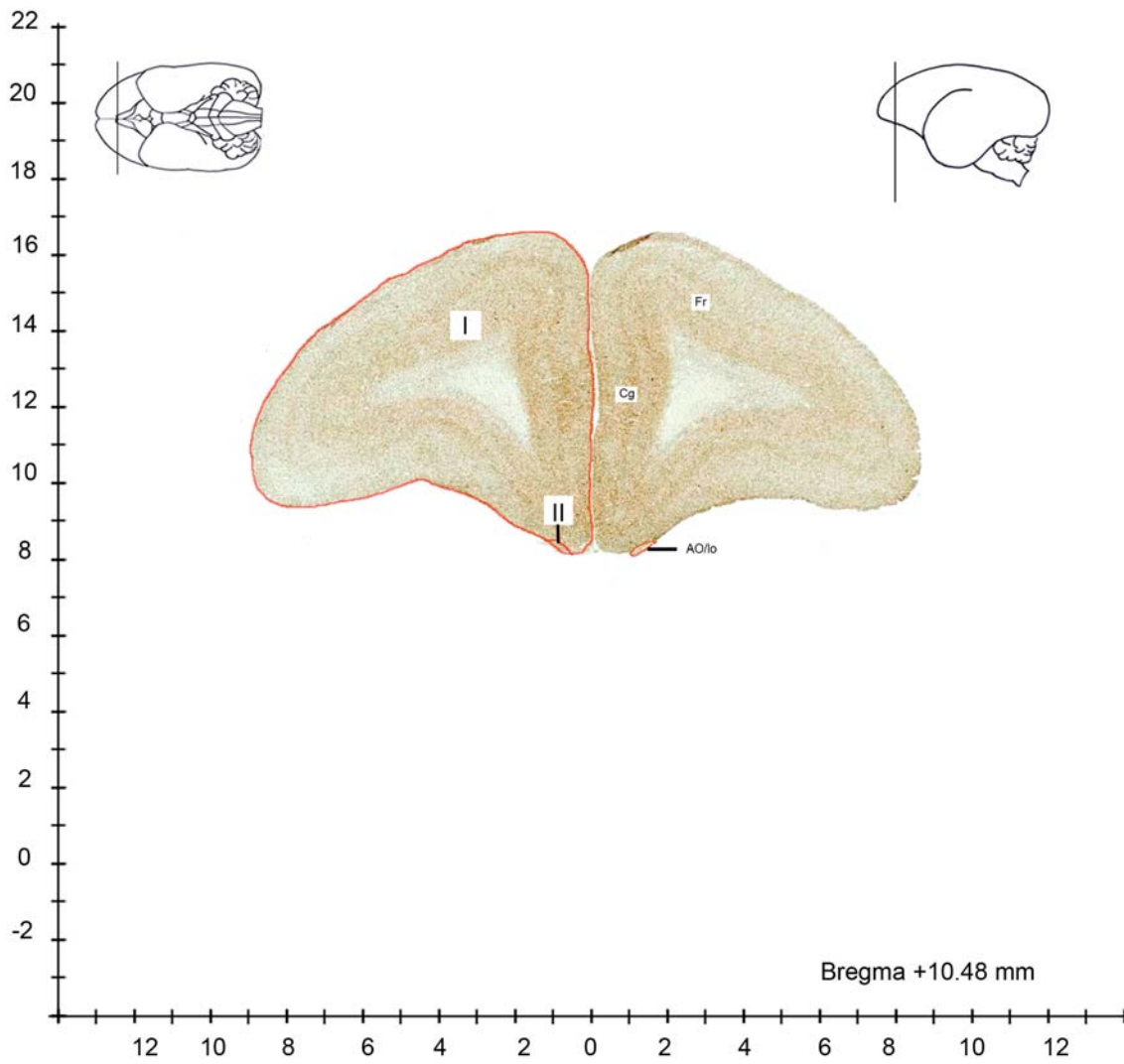


Figure 6

AO anterior olfactory nucleus
 Cg cingulate cortex
 Fr frontal cortex
 lo lateral olfactory tract

I Cerebral cortex (telencephalon)
 II Olfactory pathways (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

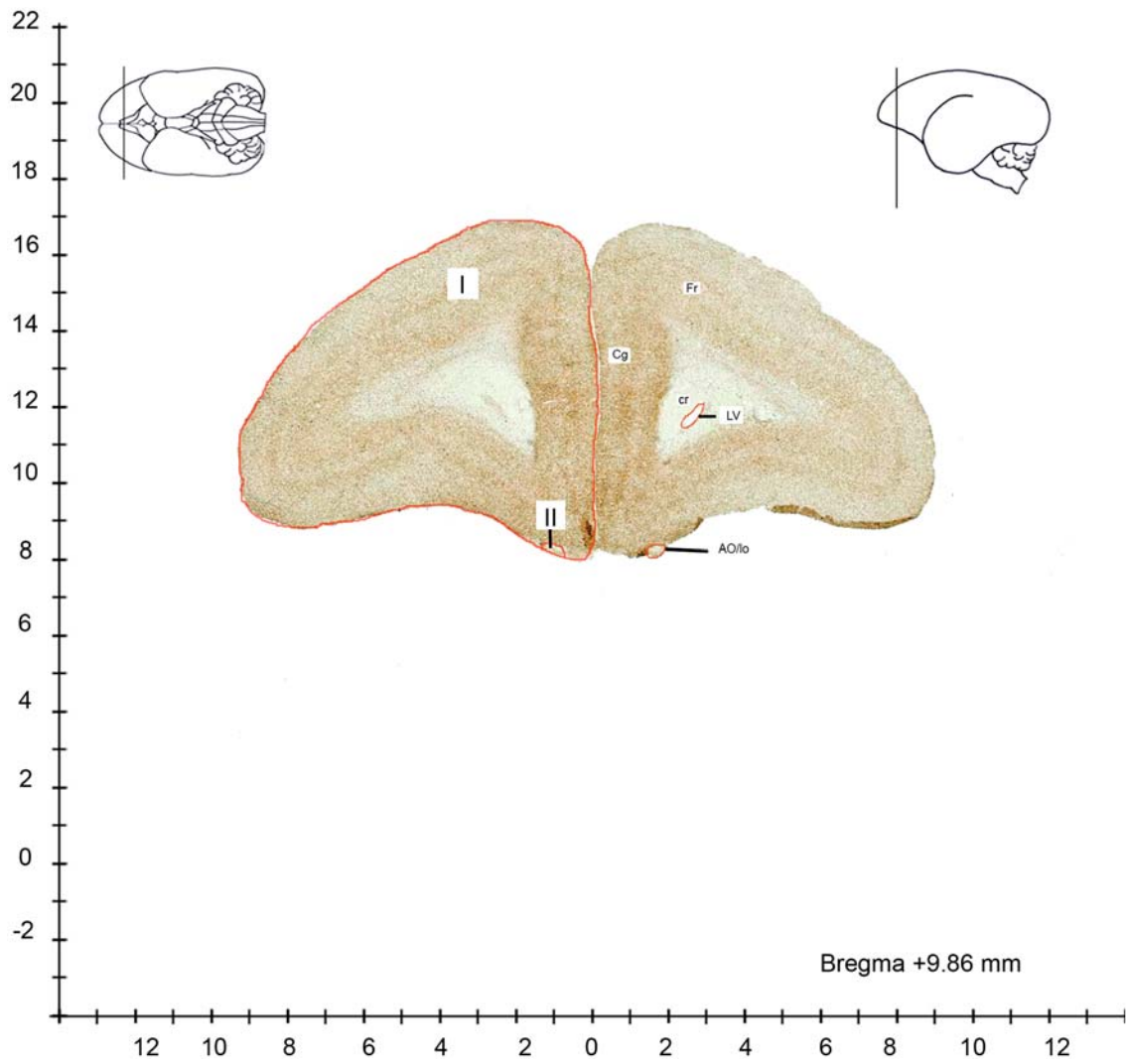


Figure 7

AO anterior olfactory nucleus
 Cg cingulate cortex
 cr corona radiata
 Fr frontal cortex
 lo lateral olfactory tract

LV lateral ventricle
 I Cerebral cortex (telencephalon)
 II Olfactory pathways (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

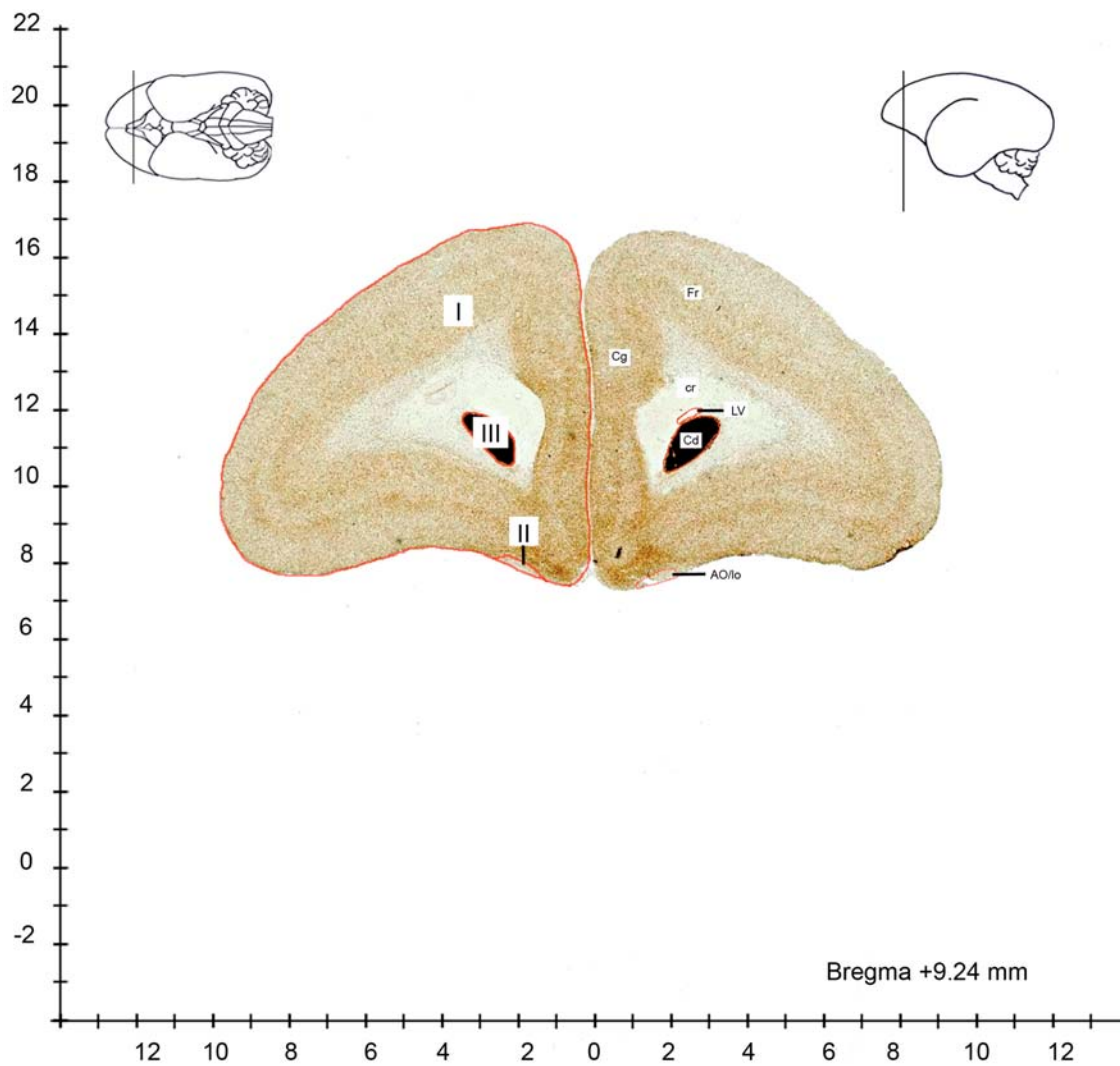


Figure 8

AO anterior olfactory nucleus
 Cd caudate nucleus
 Cg cingulate cortex
 cr corona radiata
 Fr frontal cortex
 lo lateral olfactory tract

LV lateral ventricle
 I Cerebral cortex (telencephalon)
 II Olfactory pathways (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

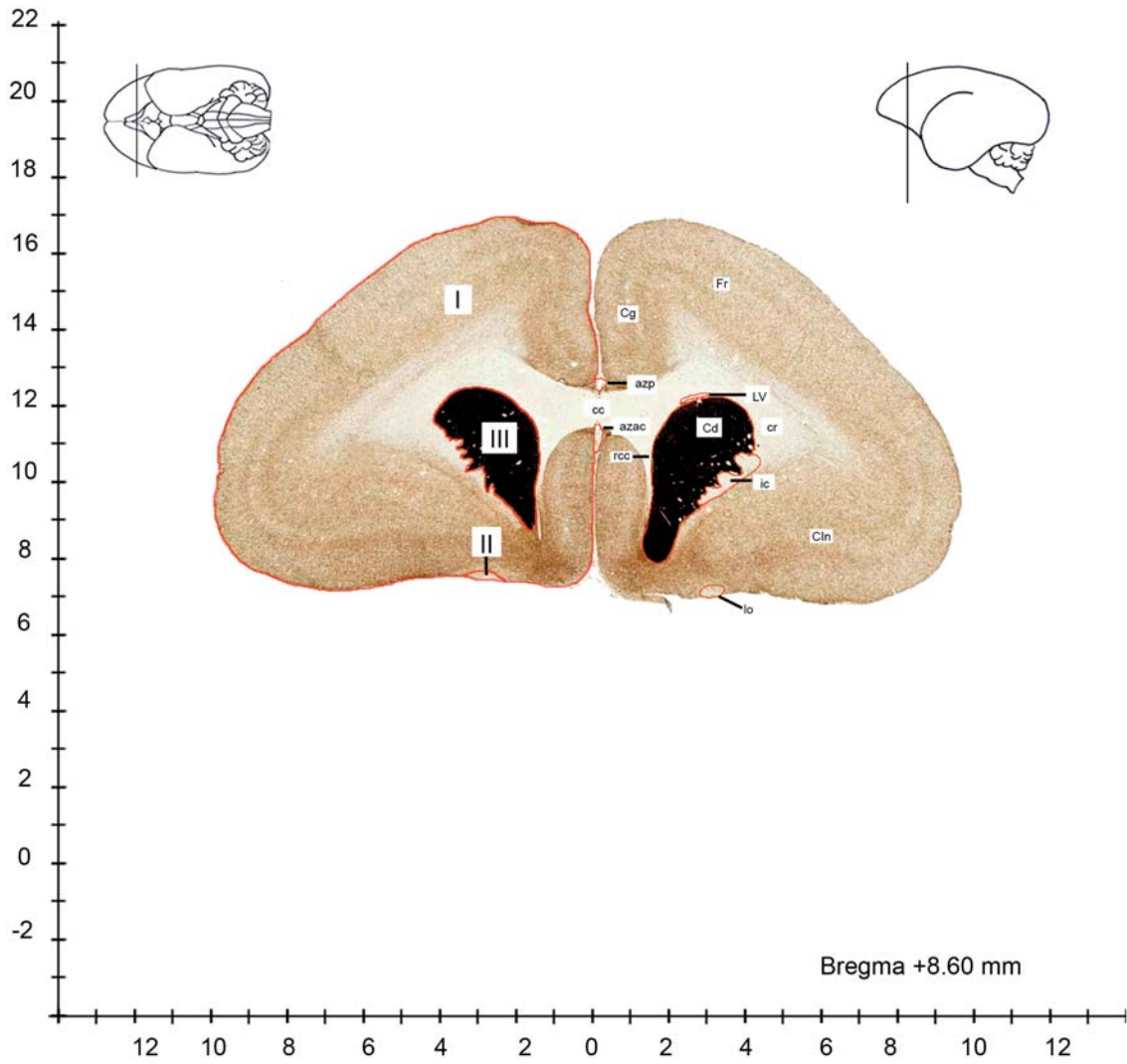


Figure 9

azac azygos anterior cerebral artery
 azp azygos pericallosal artery
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 cr corona radiata

ic internal capsule
 Fr frontal cortex
 lo lateral olfactory tract
 LV lateral ventricle
 rcc rostrum of the corpus callosum
 I Cerebral cortex (telencephalon)

II Olfactory pathways (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

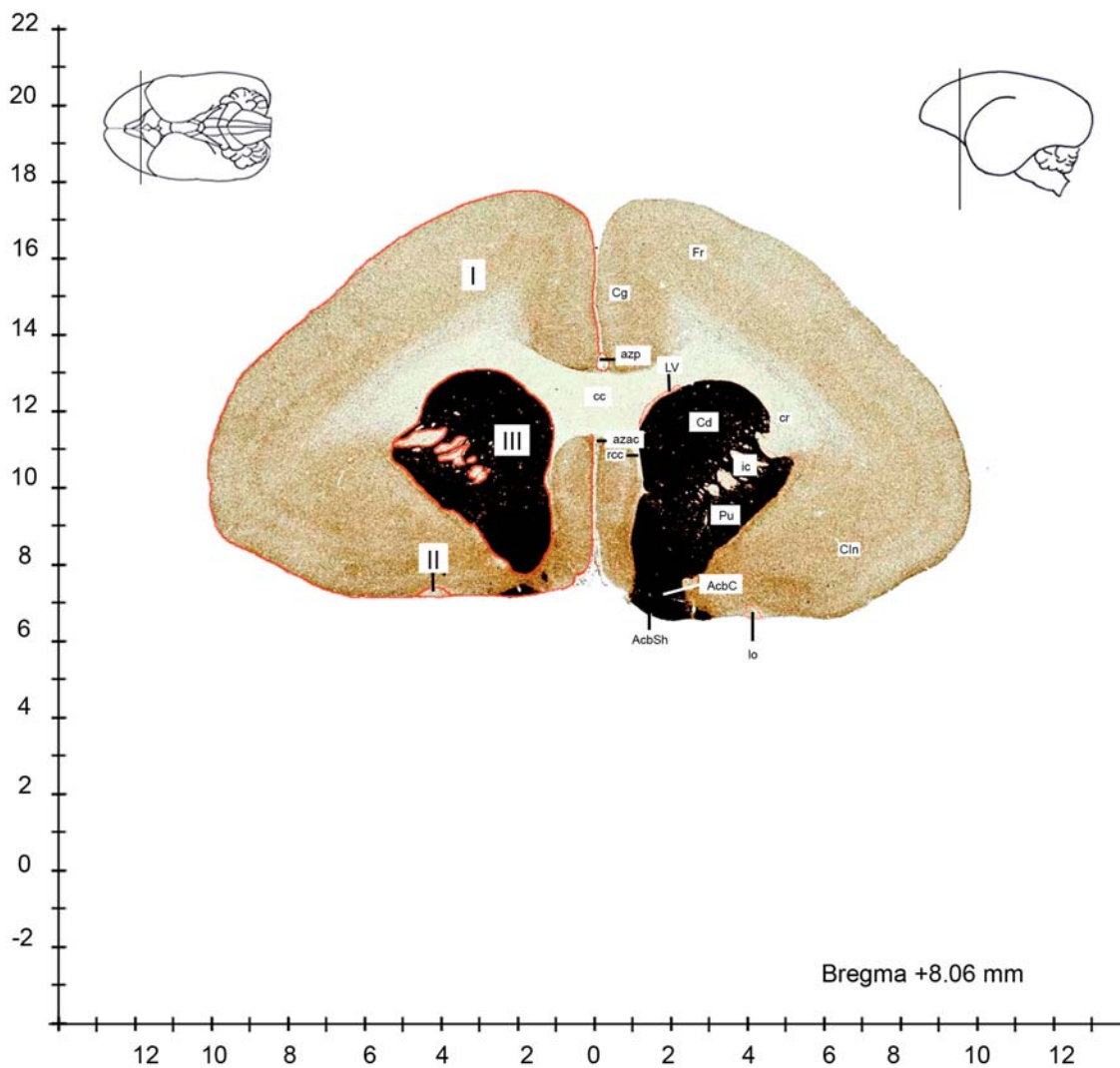


Figure 10

AcbC accumbens nucleus, core
 AcbSh accumbens nucleus, shell
 azac azygos anterior cerebral artery
 azp azygos pericallosal artery
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex

cr corona radiata
 Fr frontal cortex
 ic internal capsule
 lo lateral olfactory tract
 LV lateral ventricle
 Pu putamen
 rcc rostrum of the corpus callosum

I Cerebral cortex (telencephalon)
 II Olfactory pathways (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

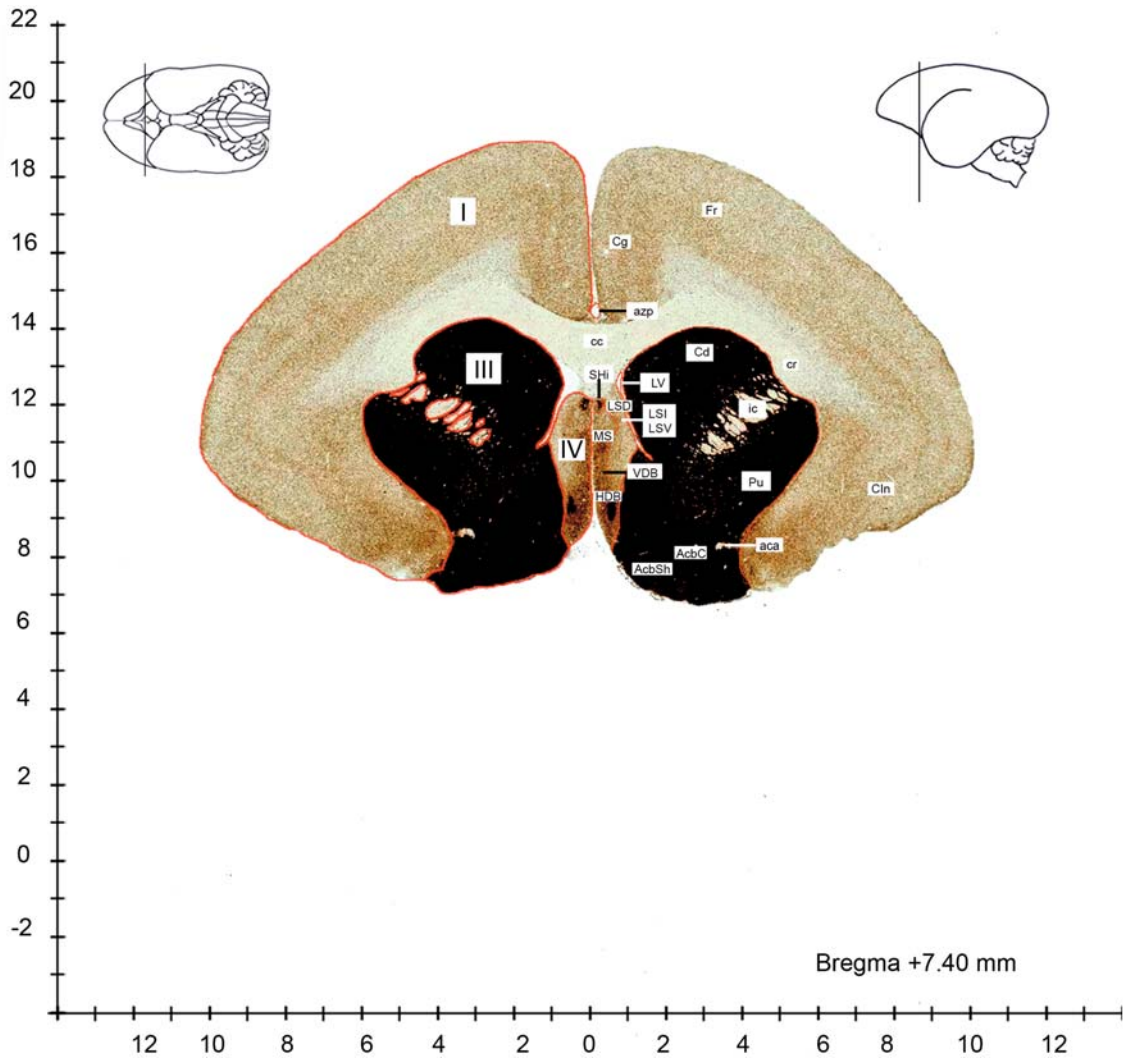


Figure 11

aca anterior commissure, anterior part
 AcbC accumbens nucleus, core
 AcbSh accumbens nucleus, shell
 azp azygos pericallosal artery
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 cr corona radiata
 Fr frontal cortex

HDB nucleus of the horizontal limb of the diagonal band
 ic internal capsule
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LSV lateral septal nucleus, ventral part
 LV lateral ventricle
 MS medial septal nucleus
 Pu putamen
 SHi septohippocampal nucleus

VDB nucleus of the vertical limb of the diagonal band

I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

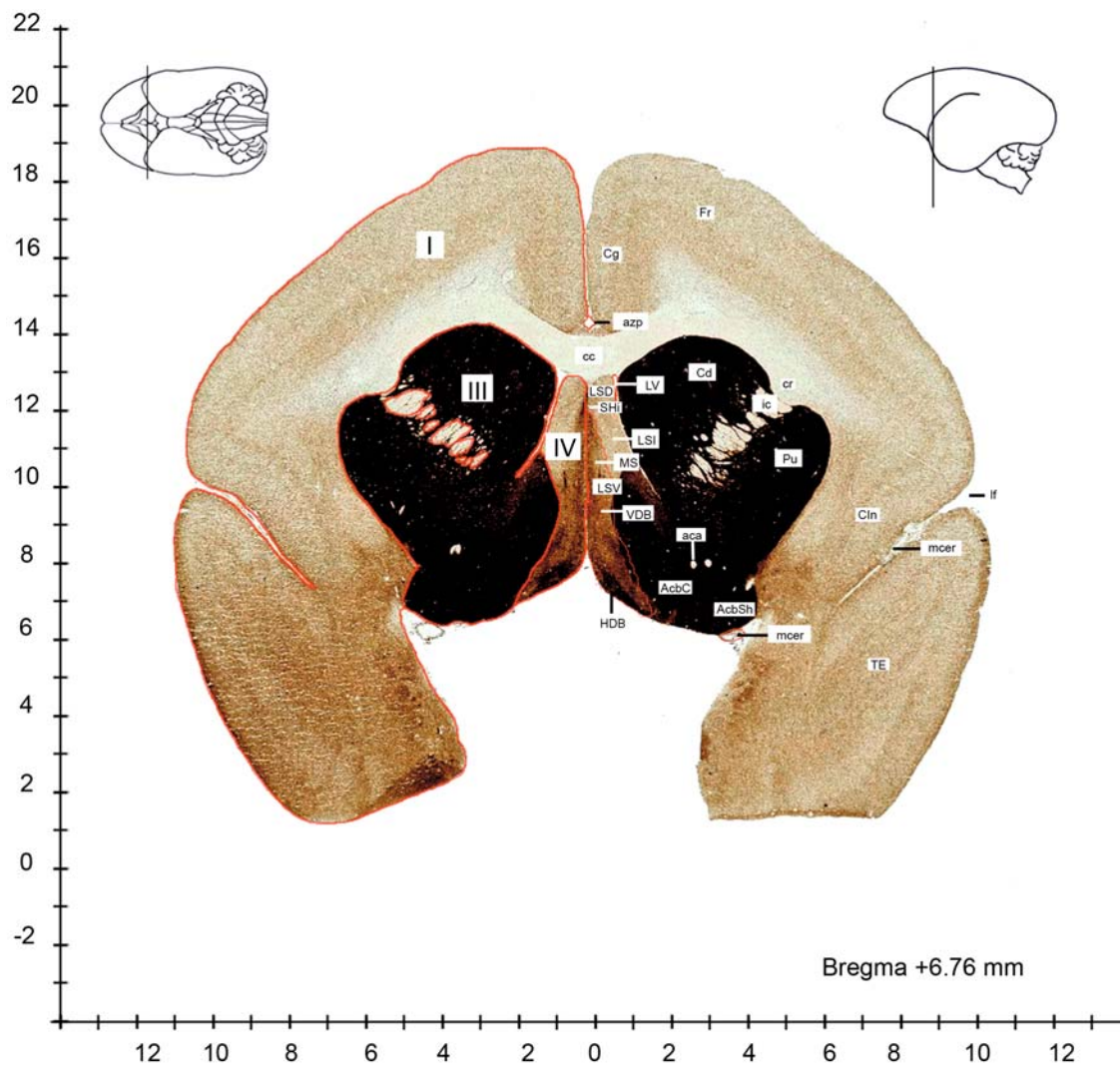


Figure 12

aca anterior commissure, anterior part
 AcbC accumbens nucleus, core
 AcbSh accumbens nucleus, shell
 azp azygos pericallosal artery
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 cr corona radiata
 Fr frontal cortex
 HDB nucleus of the horizontal limb
 of the diagonal band

ic internal capsule
 If lateral fissure
 LSD lateral septal nucleus, dorsal
 part
 LSI lateral septal nucleus, intermediate
 part
 LSV lateral septal nucleus, ventral part
 LV lateral ventricle
 mcer middle cerebral artery
 MS medial septal nucleus
 Pu putamen
 SHi septohippocampal nucleus

TE temporal cortex
 VDB nucleus of the vertical limb of the
 diagonal band

I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei
 (telencephalon)
 IV Septum (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

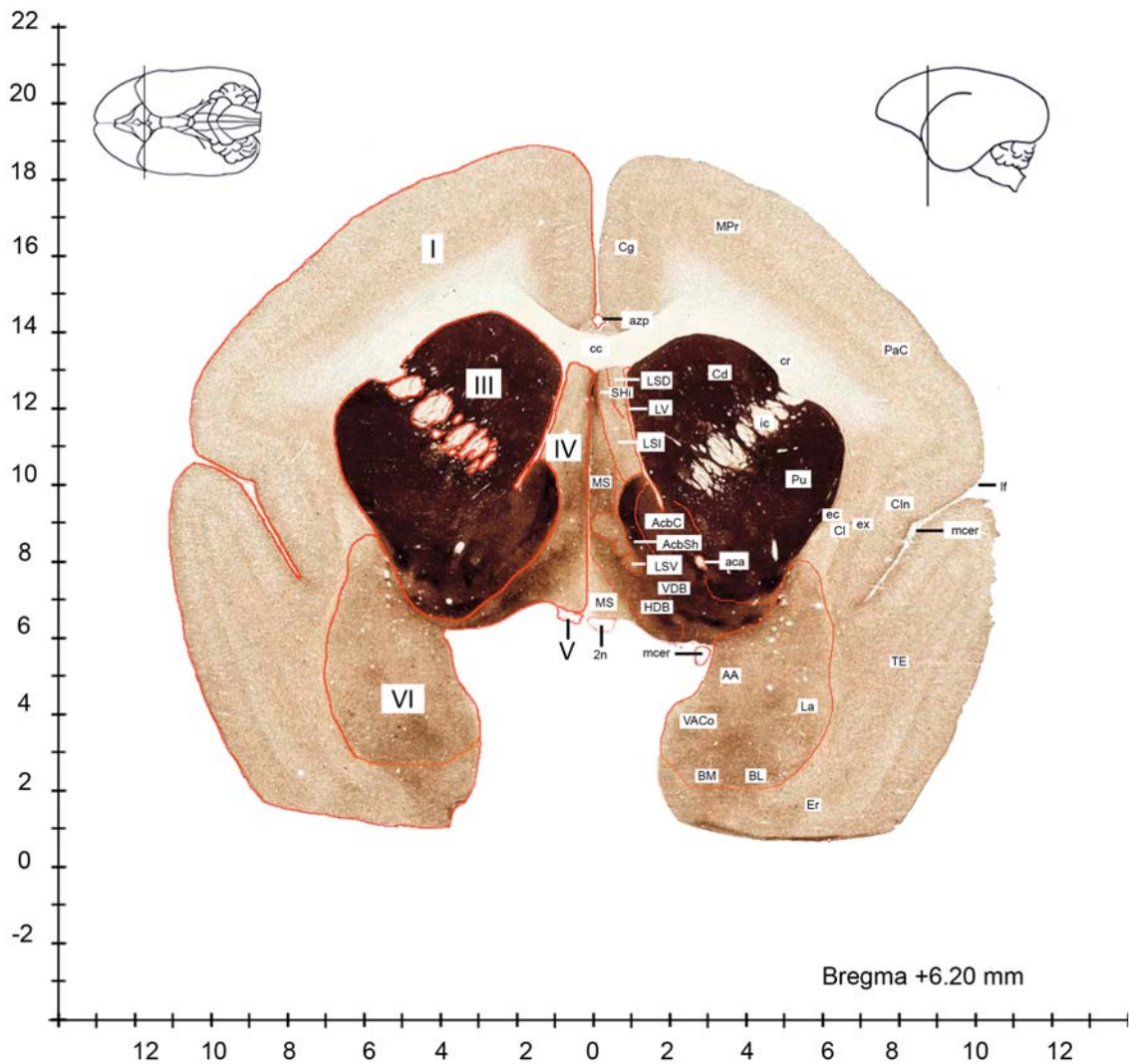


Figure 13

2n optic nerve
 AA anterior amygdaloid area
 aca anterior commissure, anterior part
 AcbC accumbens nucleus, core
 AcbSh accumbens nucleus, shell
 azp azygos pericallosal artery
 BL basolateral amygdaloid nucleus
 BM basomedial amygdaloid nucleus
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 Cl claustrum
 cr corona radiata
 ec external capsule
 Er entorhinal cortex
 ex extreme capsule

HDB nucleus of the horizontal limb of the diagonal band
 ic internal capsule
 If lateral fissure
 La lateral amygdaloid nucleus
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LSV lateral septal nucleus, ventral part
 LV lateral ventricle
 mcer middle cerebral artery
 MPr motor and premotor cortex
 MS medial septal nucleus
 PaC parietal cortex
 Pu putamen
 SHi septohippocampal nucleus

TE temporal cortex
 VACo ventral anterior cortical nucleus of the amygdala
 VDB nucleus of the vertical limb of the diagonal band
 I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)
 V Optic tract (diencephalon)
 VI Amygdala (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

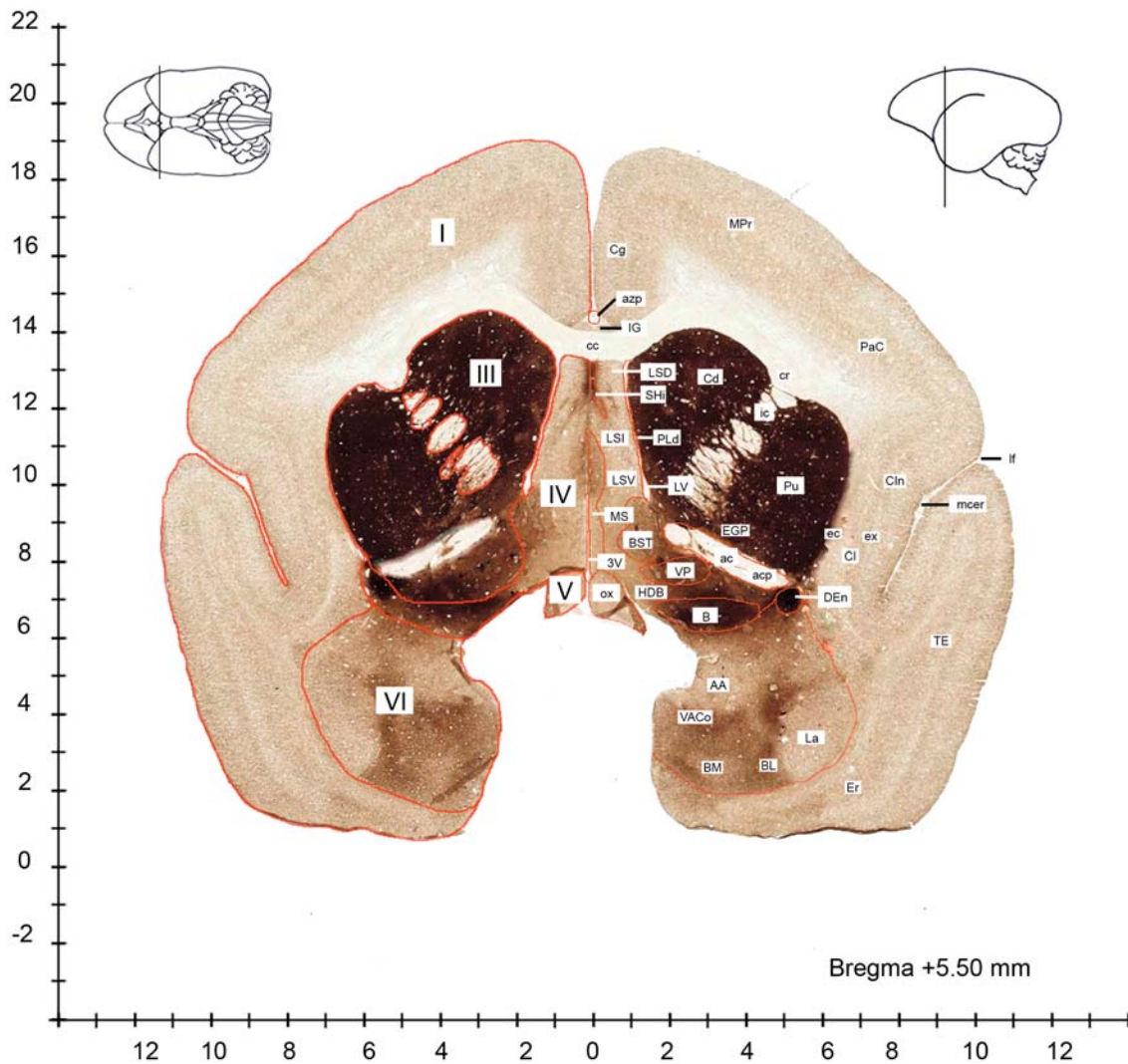


Figure 14

3 V 3rd ventricle
 AA anterior amygdaloid area
 ac anterior commissure
 acp anterior commissure, posterior part
 azp azygos pericallosal artery
 B basal nucleus (Meynert)
 BL basolateral amygdaloid nucleus
 BM basomedial amygdaloid nucleus
 BST bed nucleus of the stria terminalis
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 Cl claustrum
 cr corona radiata
 DEn dorsal endopiriform nucleus
 ec external capsule
 EGP external globus pallidus

Er entorhinal cortex
 ex extreme capsule
 HDB nucleus of the horizontal limb of the diagonal band
 ic internal capsule
 IG indusium griseum
 La lateral amygdaloid nucleus
 lf lateral fissure
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LSV lateral septal nucleus, ventral part
 LV lateral ventricle
 mcer middle cerebral artery
 MPr motor and premotor cortex
 MS medial septal nucleus
 ox optic chiasm
 PaC parietal cortex

PLd paralambdoid septal nucleus
 Pu putamen
 SHi septohippocampal nucleus
 TE temporal cortex
 VACo ventral anterior cortical nucleus of the amygdala
 VP ventral pallidum
 I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)
 V Optic tract (diencephalon)
 VI Amygdala (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

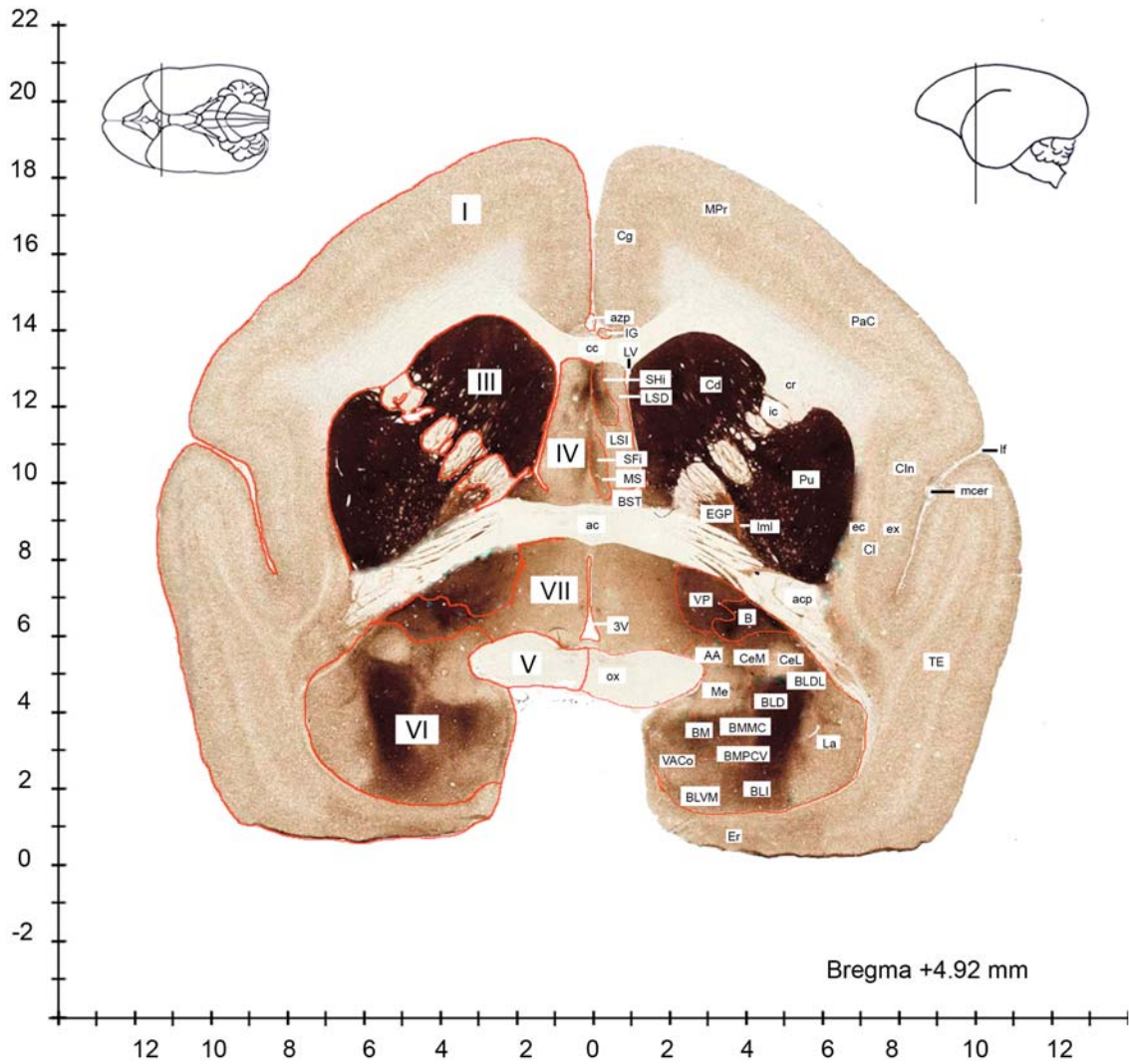


Figure 15

3V 3rd ventricle
 AA anterior amygdaloid area
 ac anterior commissure
 acp anterior commissure, posterior part
 azp azygos pericallosal artery
 B basal nucleus (Meynert)
 BLD basolateral amygdaloid nucleus, dorsal part
 BLDL basolateral amygdaloid nucleus, dorsolateral part
 BLI basolateral amygdaloid nucleus, intermediate part
 BLVM basolateral amygdaloid nucleus, ventromedial part
 BM basomedial amygdaloid nucleus
 BMMC basomedial amygdaloid nucleus, magnocellular part
 BMPCV basomedial amygdaloid nucleus, parvicellular part, ventral division
 BST bed nucleus of the stria terminalis
 cc corpus callosum
 Cd caudate nucleus

CeL central amygdaloid nucleus, lateral division
 CeM central amygdaloid nucleus, medial division
 Cg cingulate cortex
 CIn insularis cortex
 Cl claustrum
 cr corona radiata
 ec external capsule
 EGP external globus pallidus
 Er entorhinal cortex
 ex extreme capsule
 ic internal capsule
 IG indusium griseum
 La lateral amygdaloid nucleus
 lf lateral fissure
 lml lateral medullary lamina
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LV lateral ventricle
 mcer middle cerebral artery
 Me medial amygdaloid nucleus

MPr motor and premotor cortex
 MS medial septal nucleus
 PaC parietal cortex
 Pu putamen
 ox optic chiasm
 SHi septohippocampal nucleus
 TE temporal cortex
 VACo ventral anterior cortical nucleus of the amygdala
 VP ventral pallidum

I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)
 V Optic tract (diencephalon)
 VI Amygdala (telencephalon)
 VII Hypothalamus (diencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

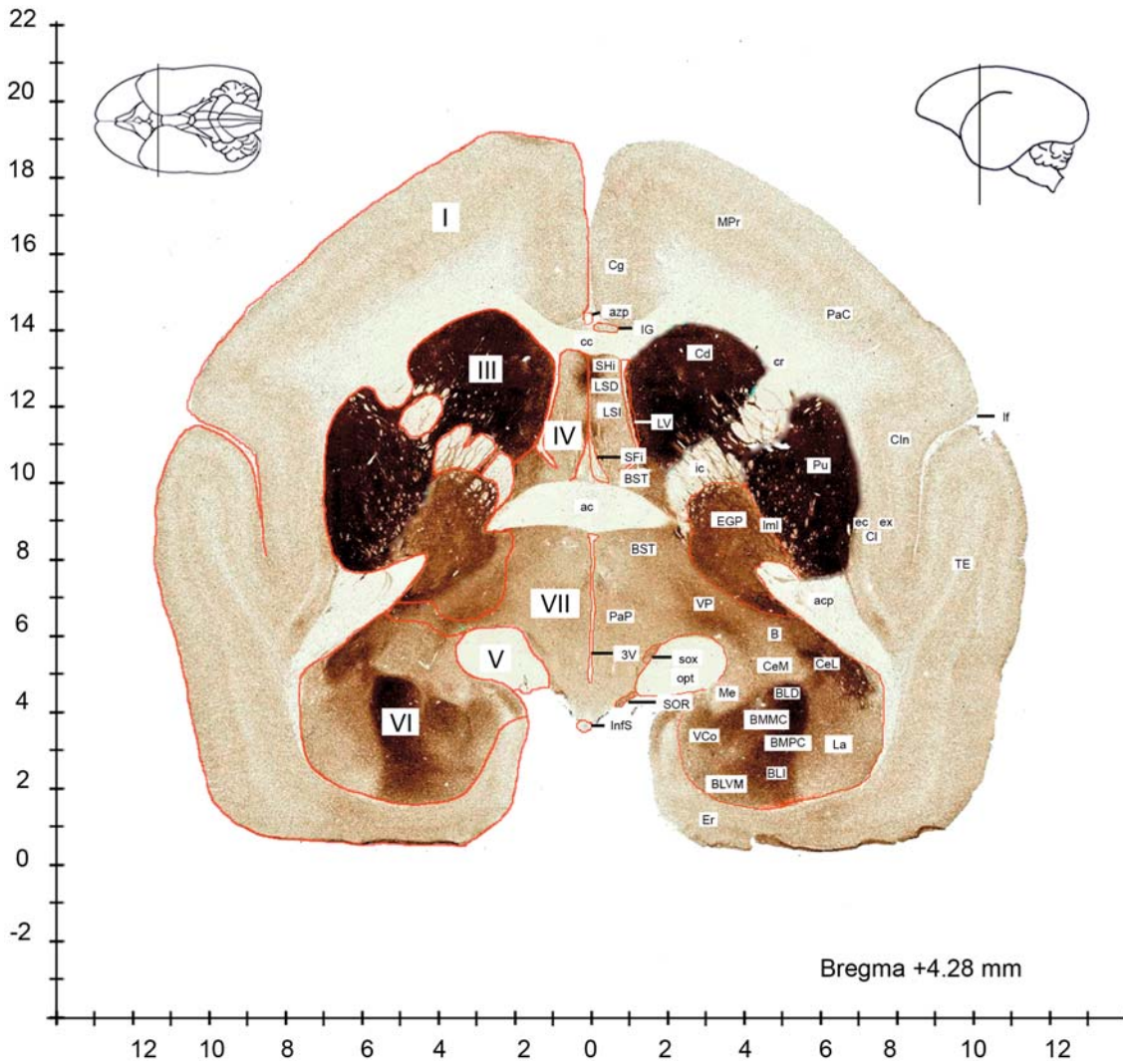


Figure 16

3 V 3rd ventricle
 ac anterior commissure
 acp anterior commissure, posterior part
 azp azygos pericallosal artery
 B basal nucleus (Meynert)
 BLD basolateral amygdaloid nucleus, dorsal part
 BLI basolateral amygdaloid nucleus, intermediate part
 BLVM basolateral amygdaloid nucleus, ventromedial part
 BMMC basomedial amygdaloid nucleus, magnocellular part
 BMPC basomedial amygdaloid nucleus, parvicellular part
 BST bed nucleus of the stria terminalis
 cc corpus callosum
 Cd caudate nucleus
 CeL central amygdaloid nucleus, lateral division
 CeM central amygdaloid nucleus, medial division
 Cg cingulate cortex

CIn insularis cortex
 Cl claustrum
 cr corona radiata
 ec external capsule
 EGP external globus pallidus
 Er entorhinal cortex
 ex extreme capsule
 ic internal capsule
 IG indusium griseum
 InfS infundibular stem
 La lateral amygdaloid nucleus
 If lateral fissure
 lml lateral medullary lamina
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LV lateral ventricle
 Me medial amygdaloid nucleus
 MPr motor and premotor cortex
 opt optic tract
 PaC parietal cortex
 PaP paraventricular hypothalamic nucleus, parvicellular part

Pu putamen
 SFi septofimbrial nucleus
 SHi septohippocampal nucleus
 SOR supraoptic nucleus, retrochiasmatic part
 sox supraoptic decussation
 TE temporal cortex
 VCo ventral cortical amygdaloid nucleus
 VP ventral pallidum

 I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)
 V Optic tract (diencephalon)
 VI Amygdala (telencephalon)
 VII Hypothalamus (diencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

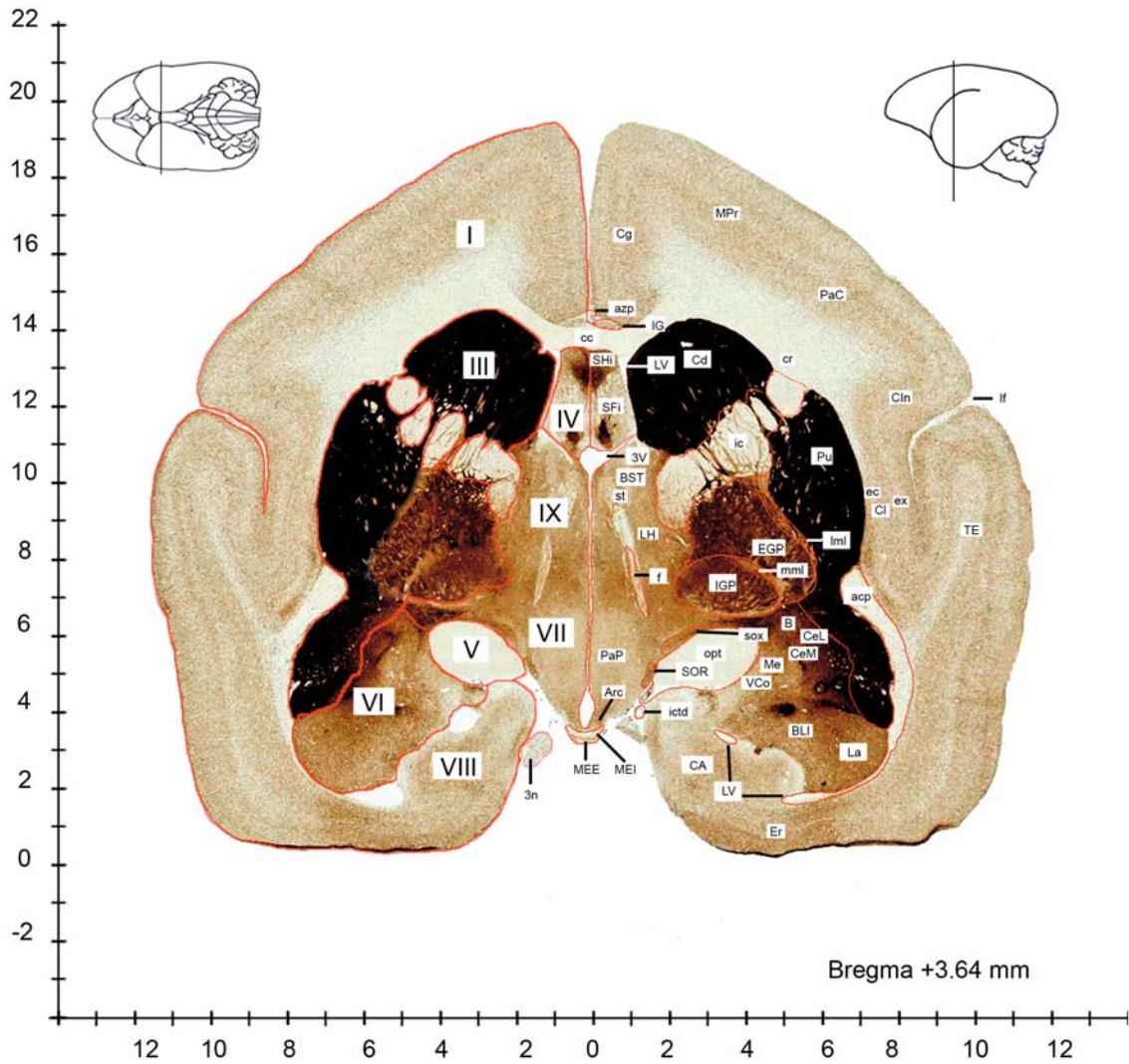


Figure 17

3 n	oculomotor nerve or its root	Er	entorhinal cortex	SFi	septofimbrial nucleus
3 V	3rd ventricle	ex	extreme capsule	SHi	septohippocampal nucleus
acp	anterior commissure, posterior part	f	fornix	SOR	supraoptic nucleus, retrochiasmatic part
Arc	arcuate hypothalamic nucleus	ic	internal capsule	sox	supraoptic decussation
azp	azygos pericallosal artery	ictd	internal carotid artery	st	stria terminalis
B	basal nucleus (Meynert)	IG	indusium griseum	TE	temporal cortex
BLI	basolateral amygdaloid nucleus, intermediate part	IGP	internal globus pallidus	VCo	ventral cortical amygdaloid nucleus
BST	bed nucleus of the stria terminalis	La	lateral amygdaloid nucleus		
CA	hippocampus	LH	lateral hypothalamic area	I	Cerebral cortex (telencephalon)
cc	corpus callosum	lml	lateral medullary lamina	III	Corpus striatum and related nuclei (telencephalon)
Cd	caudate nucleus	LV	lateral ventricle	IV	Septum (telencephalon)
CeL	central amygdaloid nucleus, lateral division	Me	medial amygdaloid nucleus	V	Optic tract (diencephalon)
CeM	central amygdaloid nucleus, medial division	MEE	medial eminence, external layer	VI	Amygdala (telencephalon)
Cg	cingulate cortex	MEI	medial eminence, internal layer	VII	Hypothalamus (diencephalon)
CIn	insularis cortex	mml	medial medullary lamina	VIII	Hippocampus (telencephalon)
Cr	corona radiata	MPr	motor and premotor cortex	IX	Thalamus (diencephalon)
ec	external capsule	PaC	parietal cortex		
EGP	external globus pallidus	PaP	paraventricular hypothalamic nucleus, parvicellular part		
		Pu	putamen		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

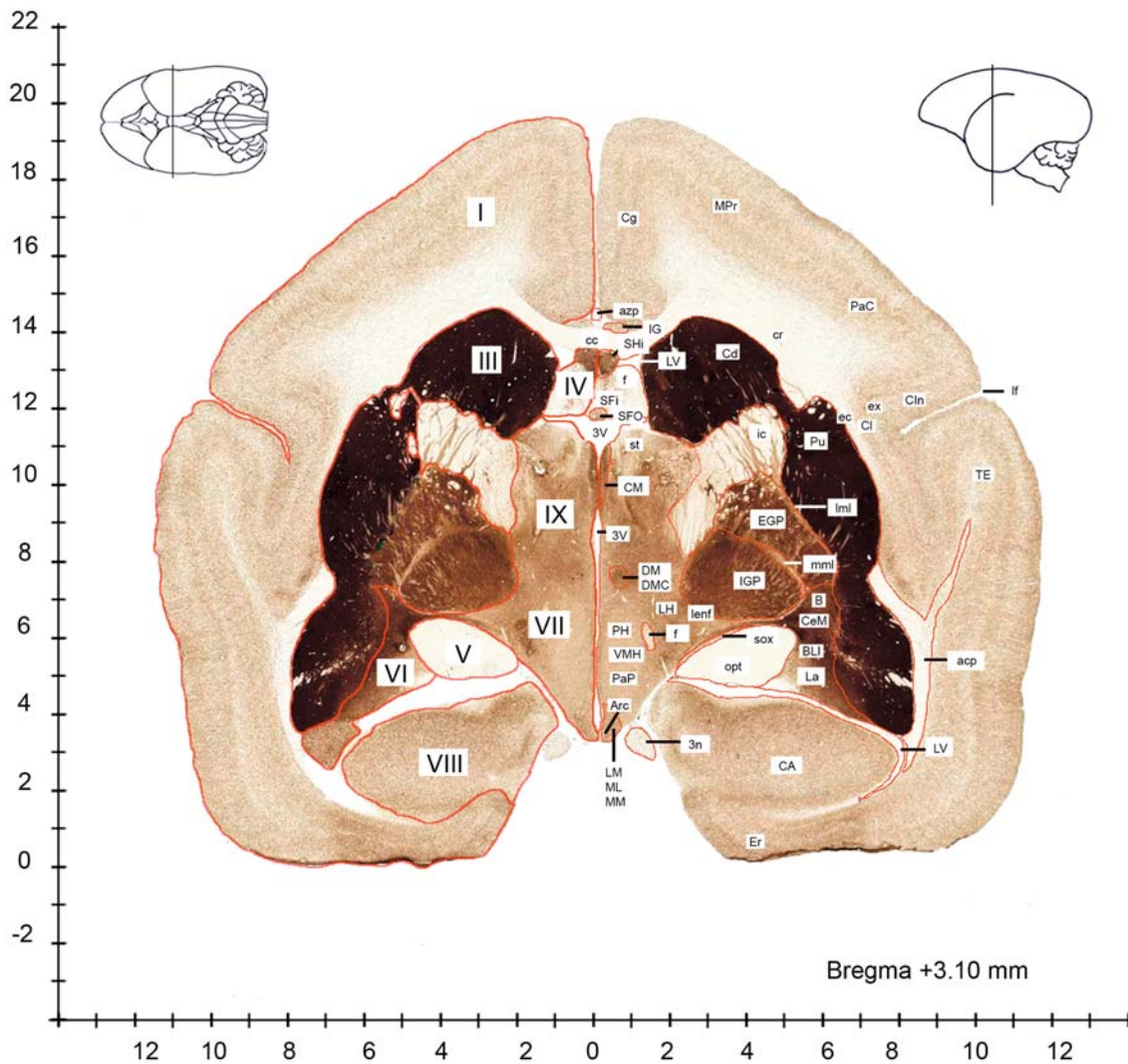


Figure 18

3 n	oculomotor nerve or its root	ex	extreme capsule	SFi	septofimbrial nucleus
3 V	3rd ventricle	f	fornix	SFO	subfornical organ
acp	anterior commissure, posterior part	ic	internal capsule	SHi	septohippocampal nucleus
Arc	arcuate hypothalamic nucleus	IG	indusium griseum	sox	supraoptic decussation
azp	azygos pericallosal artery	IGP	internal globus pallidus	st	stria terminalis
B	basal nucleus (Meynert)	La	lateral amygdaloid nucleus	TE	temporal cortex
BLI	basolateral amygdaloid nucleus, intermediate part	lenf	lenticular fasciculus	VMH	ventromedial hypothalamic nucleus
CA	hippocampus	If	lateral fissure		
cc	corpus callosum	LH	lateral hypothalamic area	I	Cerebral cortex (telencephalon)
Cd	caudate nucleus	LM	lateral mammillary nucleus	III	Corpus striatum and related nuclei (telencephalon)
CeM	central amygdaloid nucleus, medial division	lml	lateral medullary lamina	IV	Septum (telencephalon)
Cg	cingulate cortex	LV	lateral ventricle	V	Optic tract (diencephalon)
CIn	insularis cortex	ML	medial mammillary nucleus, lateral part	VI	Amygdala (telencephalon)
Cl	claustrum	MM	medial mammillary nucleus, medial part	VII	Hypothalamus (diencephalon)
CM	central medial thalamic nucleus	mml	medial medullary lamina	VIII	Hippocampus (telencephalon)
cr	corona radiata	MPr	motor and premotor cortex	IX	Thalamus (diencephalon)
DM	dorsomedial hypothalamic nucleus	opt	optic tract		
DMC	dorsomedial hypothalamic nucleus, compact part	PaC	parietal cortex		
ec	external capsule	PaP	paraventricular hypothalamic nucleus, parvicellular part		
EGP	external globus pallidus	PH	posterior hypothalamic area		
Er	entorhinal cortex	Pu	putamen		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

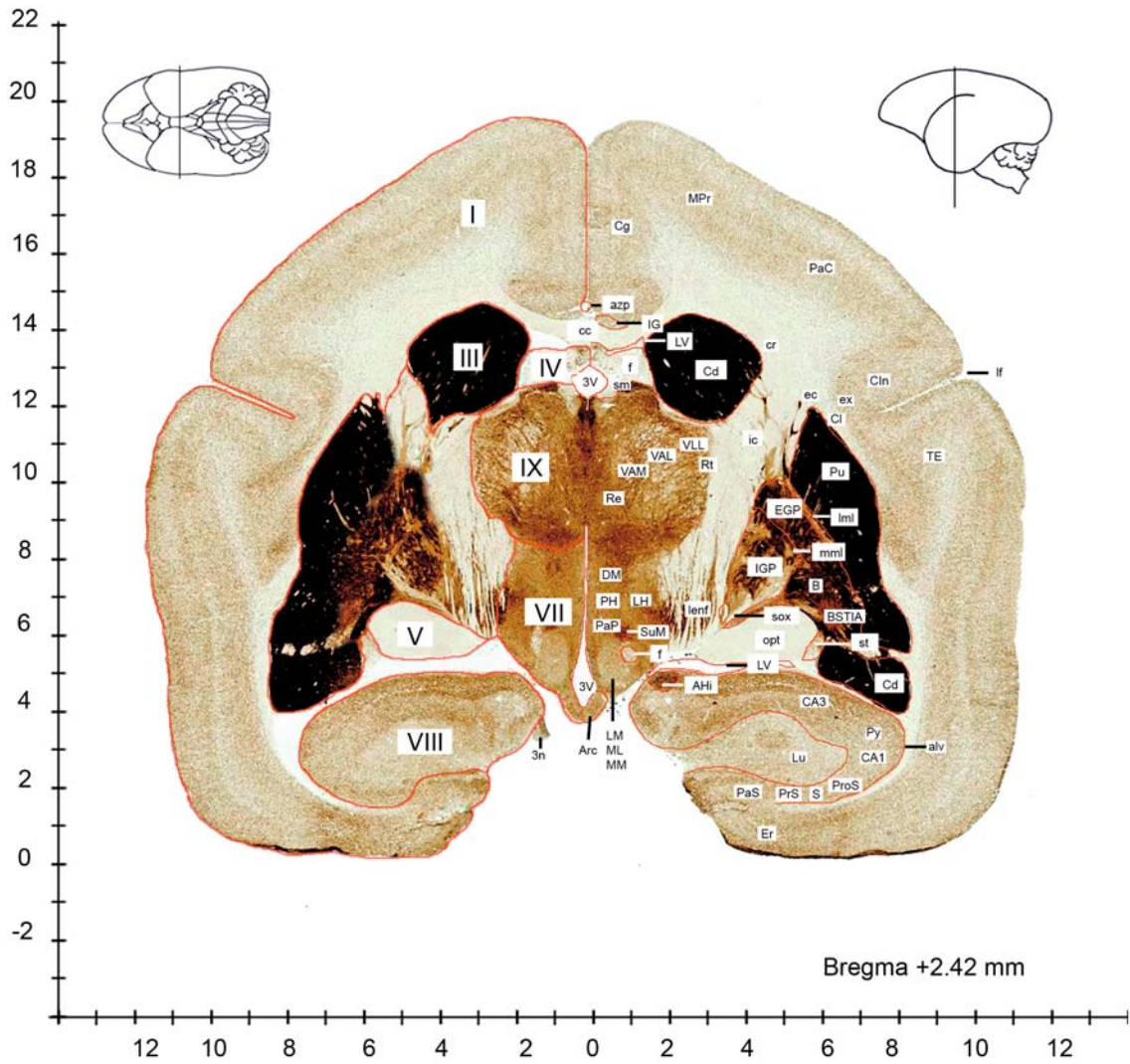


Figure 19

3 n oculomotor nerve or its root
 3 V 3rd ventricle
 AHi amygdalohippocampal area
 alv alveus of the hippocampus
 Arc arcuate hypothalamic nucleus
 azp azygos pericallosal artery
 B basal nucleus (Meynert)
 BSTIA bed nucleus of the stria terminalis, intraamygdaloid division
 CA1 field CA1 of hippocampus
 CA3 field CA3 of hippocampus
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 Cl claustrum
 cr corona radiata
 DM dorsomedial hypothalamic nucleus
 ec external capsule
 EGP external globus pallidus
 Er entorhinal cortex
 ex extreme capsule
 f fornix
 ic internal capsule
 IG indusium griseum

IGP internal globus pallidus
 lenf lenticular fasciculus
 lf lateral fissure
 LH lateral hypothalamic area
 LM lateral mammillary nucleus
 Lu stratum lucidum of the hippocampus
 LV lateral ventricle
 ML medial mammillary nucleus, lateral part
 MM medial mammillary nucleus, medial part
 mml medial medullary lamina
 MPr motor and premotor cortex
 opt optic tract
 PaC parietal cortex
 PaP paraventricular hypothalamic nucleus, parvicellular part
 PaS parasubiculum
 PH posterior hypothalamic area
 ProS prosubiculum
 PrS presubiculum
 Pu putamen
 Py pyramidal cell layer of the hippocampus
 Re reuniens thalamic nucleus

Rt reticular thalamic nucleus
 S subiculum
 sm stria medullaris of the thalamus
 sox supraoptic decussation
 st stria terminalis
 SuM supramammillary nucleus
 TE temporal cortex
 VAL ventral anterior thalamic nucleus, lateral part
 VAM ventral anterior thalamic nucleus, medial part
 VLL ventral lateral thalamic nucleus, lateral part

 I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 IV Septum (telencephalon)
 V Optic tract (diencephalon)
 VII Hypothalamus (diencephalon)
 VIII Hippocampus (telencephalon)
 IX Thalamus (diencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

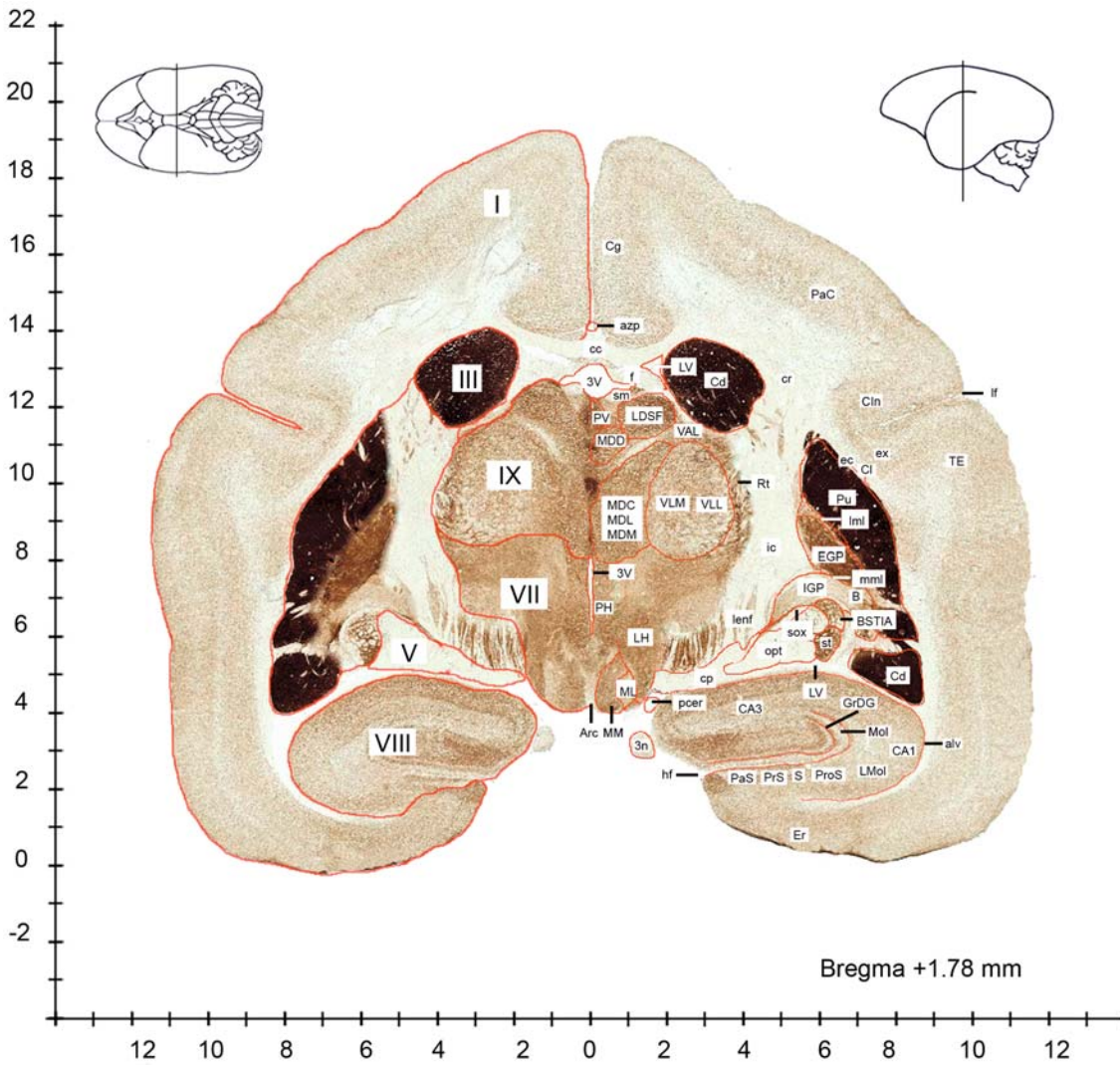


Figure 20

- | | | | | | |
|-------|--|------|---|------|--|
| 3 n | oculomotor nerve or its root | lenf | lenticular fasciculus | Pu | putamen |
| 3 V | 3rd ventricle | If | lateral fissure | PV | paraventricular thalamic nucleus |
| alv | alveus of the hippocampus | LH | lateral hypothalamic area | Rt | reticular thalamic nucleus |
| Arc | arcuate hypothalamic nucleus | lml | lateral medullary lamina | S | subiculum |
| azp | azygos pericallosal artery | LMol | lacunosum moleculare layer of the hippocampus | sm | stria medullaris of the thalamus |
| B | basal nucleus (Meynert) | LV | lateral ventricle | sox | supraoptic decussation |
| BSTIA | bed nucleus of the stria terminalis intraamygdaloid division | MDC | mediodorsal thalamic nucleus, central part | st | stria terminalis |
| CA1 | field CA1 of hippocampus | MDD | mediodorsal thalamic nucleus, dorsal part | TE | temporal cortex |
| CA3 | field CA3 of hippocampus | MDL | mediodorsal thalamic nucleus, lateral part | VAL | ventral anterior thalamic nucleus, lateral part |
| cc | corpus callosum | MDM | mediodorsal thalamic nucleus, medial part | VLL | ventral lateral thalamic nucleus, lateral part |
| Cd | caudate nucleus | ML | medial mammillary nucleus, lateral part | VLM | ventral lateral thalamic nucleus, medial part |
| Cg | cingulate cortex | MM | medial mammillary nucleus, medial part | I | Cerebral cortex (telencephalon) |
| CIn | insularis cortex | mml | medial medullary lamina | III | Corpus striatum and related nuclei (telencephalon) |
| Cl | claustrum | Mol | molecular layer of the dentate gyrus | V | Optic tract (diencephalon) |
| cp | cerebral peduncle, basal part | PaC | parietal cortex | VII | Hypothalamus (diencephalon) |
| cr | corona radiata | PaS | parasubiculum | VIII | Hippocampus (telencephalon) |
| ec | external capsule | pcer | posterior cerebral artery | IX | Thalamus (diencephalon) |
| EGP | external globus pallidus | PH | posterior hypothalamic area | | |
| Er | entorhinal cortex | ProS | prosubiculum | | |
| ex | extreme capsule | PrS | presubiculum | | |
| f | fornix | | | | |
| GrDG | granular layer of the dentate gyrus | | | | |
| hf | hippocampal fissure | | | | |
| ic | internal capsule | | | | |
| IGP | internal globus pallidus | | | | |
| LDSF | lateral dorsal thalamic nucleus, superficial part | | | | |
- This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

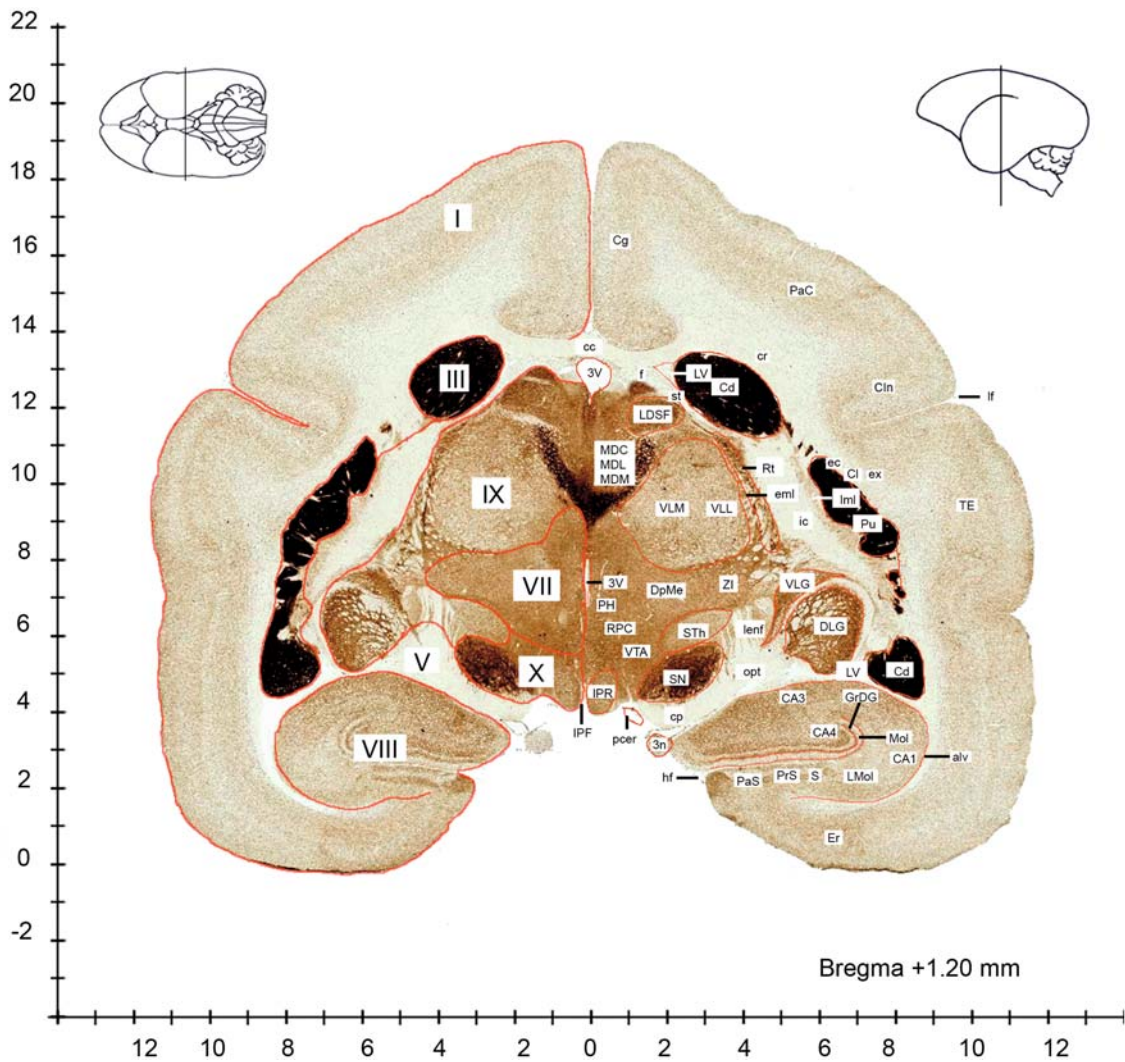


Figure 21

3 n	oculomotor nerve or its root	IPR	interpeduncular nucleus, rostral subnucleus	Rt	reticular thalamic nucleus
3 V	3rd ventricle	LDSF	lateral dorsal thalamic nucleus, superficial part	S	subiculum
alv	alveus of the hippocampus	lenf	lenticular fasciculus	SN	substantia nigra
CA1	field CA1 of hippocampus	lf	lateral fissure	st	stria terminalis
CA3	field CA3 of hippocampus	lml	lateral medullary lamina	STh	subthalamic nucleus
CA4	field CA4 of hippocampus	LMol	lacunosum moleculare layer of the hippocampus	TE	temporal cortex
cc	corpus callosum	LV	lateral ventricle	VLG	ventral lateral geniculate nucleus
Cd	caudate nucleus	MDC	mediodorsal thalamic nucleus, central part	VLL	ventral lateral thalamic nucleus, lateral part
Cg	cingulate cortex	MDL	mediodorsal thalamic nucleus, lateral part	VLM	ventral lateral thalamic nucleus, medial part
CIn	insularis cortex	MDM	mediodorsal thalamic nucleus, medial part	VTA	ventral tegmental area
Cl	claustrum	Mol	molecular layer of the dentate gyrus	ZI	zona incerta
cp	cerebral peduncle, basal part	opt	optic tract	I	Cerebral cortex (telencephalon)
cr	corona radiata	PaC	parietal cortex	III	Corpus striatum and related nuclei (telencephalon)
DLG	dorsal lateral geniculate nucleus	PaS	parasubiculum	V	Optic tract (diencephalon)
DpMe	deep mesencephalic nucleus	pcer	posterior cerebral artery	VII	Hypothalamus (diencephalon)
ec	external capsule	PH	posterior hypothalamic area	VIII	Hippocampus (telencephalon)
eml	external medullary lamina	PrS	presubiculum	IX	Thalamus (diencephalon)
Er	entorhinal cortex	Pu	putamen	X	Mesencephalon
ex	extreme capsule	RPC	red nucleus, parvocellular part		
f	fornix				
GrDG	granular layer of the dentate gyrus				
hf	hippocampal fissure				
ic	internal capsule				
IPF	interpeduncular fossa				

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

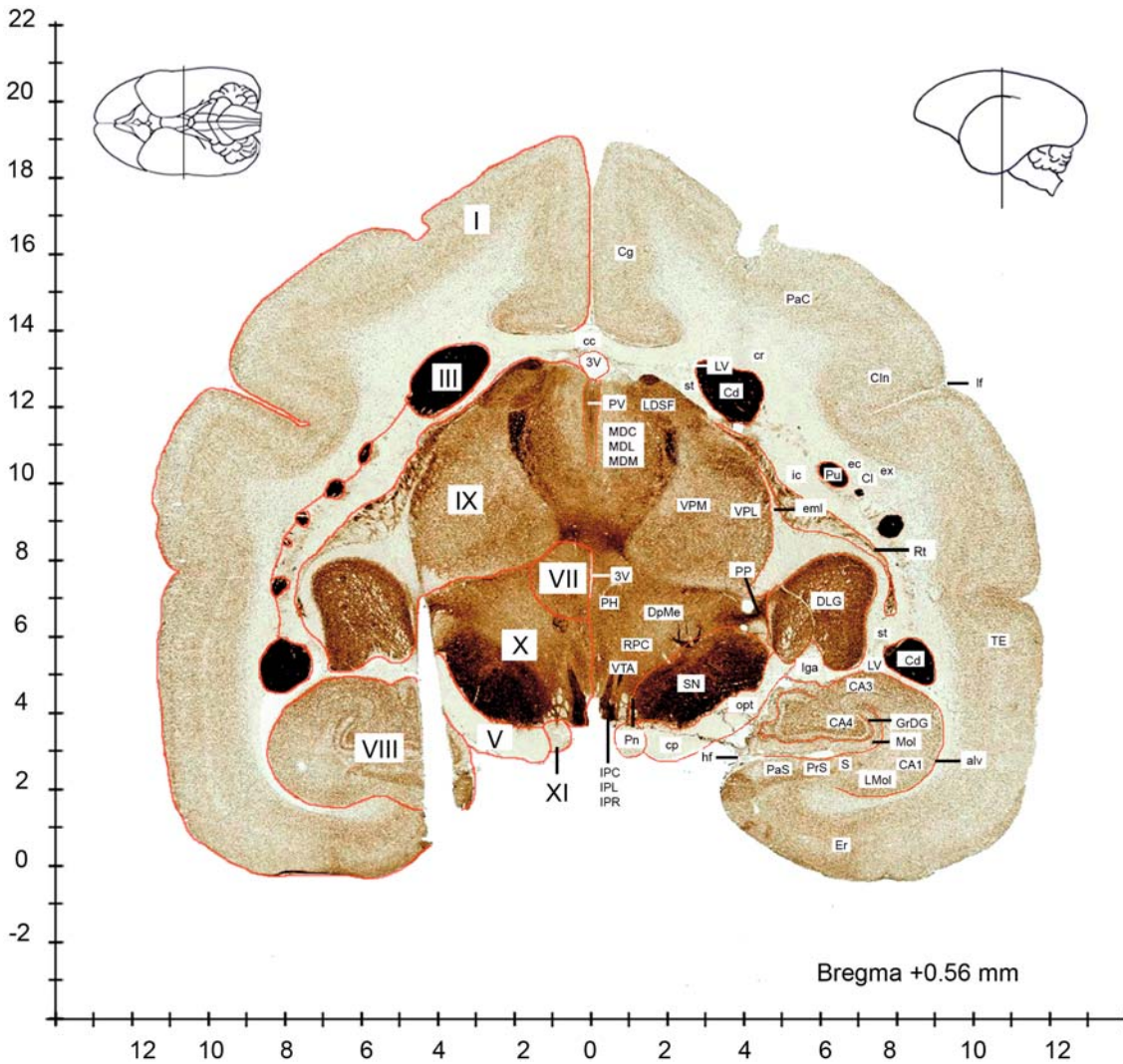


Figure 22

3 V 3rd ventricle
 alv alveus of the hippocampus
 CA1 field CA1 of hippocampus
 CA3 field CA3 of hippocampus
 CA4 field CA4 of hippocampus
 cc corpus callosum
 Cd caudate nucleus
 Cg cingulate cortex
 CIn insularis cortex
 Cl claustrum
 cp cerebral peduncle, basal part
 cr corona radiata
 DLG dorsal lateral geniculate nucleus
 DpMe deep mesencephalic nucleus
 ec external capsule
 eml external medullary lamina
 Er entorhinal cortex
 ex extreme capsule
 GrDG granular layer of the dentate gyrus
 hf hippocampal fissure
 ic internal capsule
 IPC interpeduncular nucleus, caudal subnucleus
 IPL interpeduncular nucleus, lateral subnucleus

IPR interpeduncular nucleus, rostral subnucleus
 LDSF lateral dorsal thalamic nucleus, superficial part
 If lateral fissure
 lga lateral geniculate artery
 LMol lacunosum moleculare layer of the hippocampus
 LV lateral ventricle
 MDC mediadorsal thalamic nucleus, central part
 MDL mediadorsal thalamic nucleus, lateral part
 MDM mediadorsal thalamic nucleus, medial part
 Mol molecular layer of the dentate gyrus
 opt optic tract
 PaC parietal cortex
 PaS parasubiculum
 PH posterior hypothalamic area
 Pn pontine nuclei
 PP peripeduncular nucleus
 PrS presubiculum
 Pu putamen
 PV paraventricular thalamic nucleus
 RPC red nucleus, parvicellular part

Rt reticular thalamic nucleus
 S subiculum
 SN substantia nigra
 st stria terminalis
 TE temporal cortex
 VPL ventral posterolateral thalamic nucleus
 VPM ventral posteromedial thalamic nucleus
 VTA ventral tegmental area

I Cerebral cortex (telencephalon)
 III Corpus striatum and related nuclei (telencephalon)
 V Optic tract (diencephalon)
 VII Hypothalamus (diencephalon)
 VIII Hippocampus (telencephalon)
 IX Thalamus (diencephalon)
 X Mesencephalon
 XI Pons (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

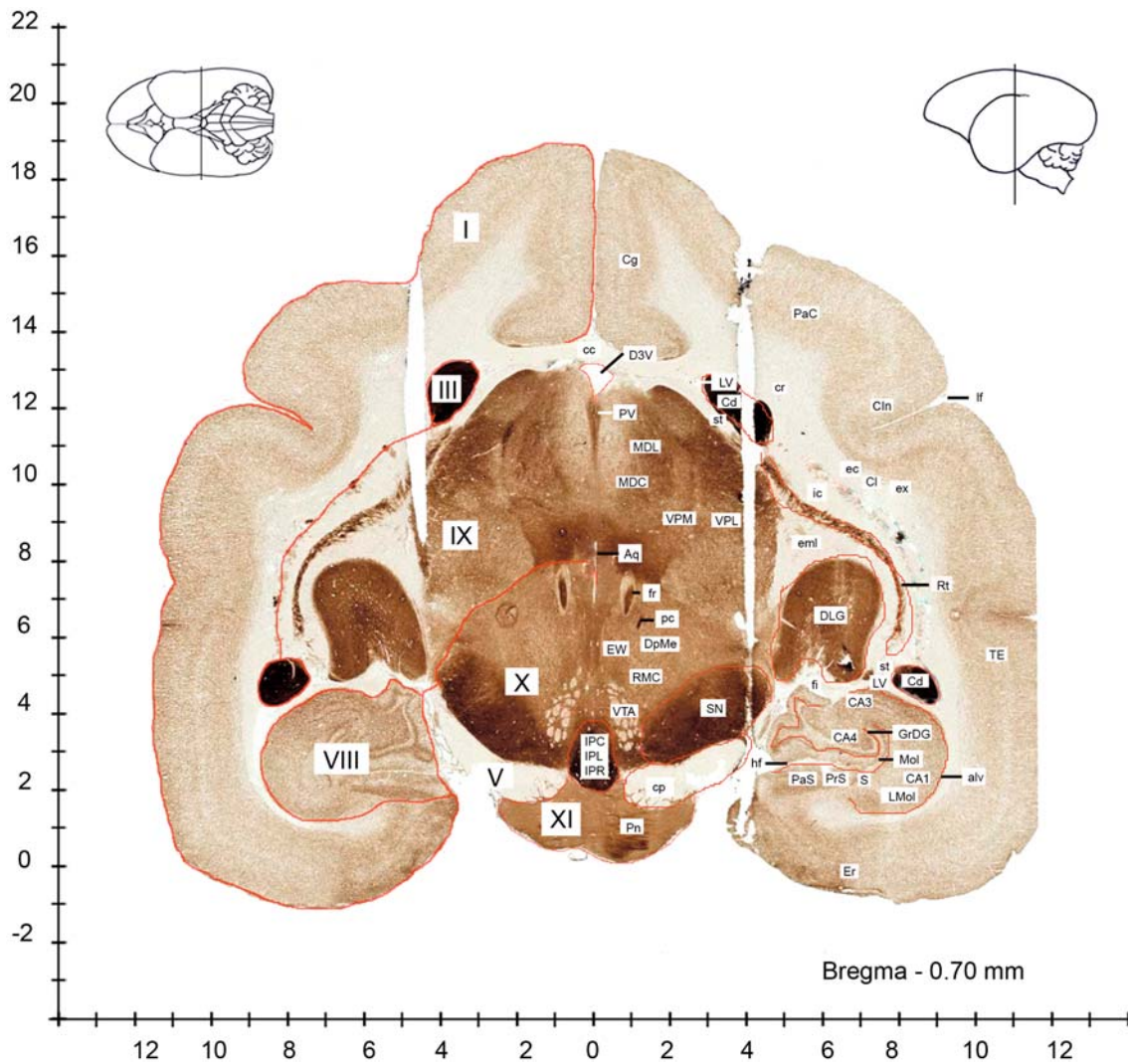


Figure 23

alv	slevis of the hippocampus	hf	hippocampal fissure	Rt	reticular thalamic nucleus
Aq	squeduct	ic	internal capsule	S	subiculum
CA1	field CA1 of hippocampus	IPC	interpeduncular nucleus, caudal subnucleus	SN	substantia nigra
CA3	field CA3 of hippocampus	IPL	interpeduncular nucleus, lateral subnucleus	st	stria terminalis
CA4	field CA4 of hippocampus	IPR	interpeduncular nucleus, rostral subnucleus	TE	temporal cortex
cc	corpus callosum	LMol	lacunosum moleculare layer of the hippocampus	VPL	ventral posterolateral thalamic nucleus
Cd	caudate nucleus	LV	lateral ventricle	VPM	ventral posteromedial thalamic nucleus
Cg	cingulate cortex	MDC	mediodorsal thalamic nucleus, central part	VTA	ventral tegmental area
CIn	insularis cortex	MDL	mediodorsal thalamic nucleus, lateral part	I	Cerebral cortex (telencephalon)
Cl	claustrum	Mol	molecular layer of the dentate gyrus	III	Corpus striatum and related nuclei (telencephalon)
cp	cerebral peduncle, basal part	PaC	parietal cortex	V	Optic tract (diencephalon)
cr	corona radiata	PaS	parasubiculum	VIII	Hippocampus (telencephalon)
D3V	dorsal 3rd ventricle	pc	posterior commissure	IX	Thalamus (diencephalon)
DLG	dorsal lateral geniculate nucleus	Pn	pontine nuclei	X	Mesencephalon
DpMe	deep mesencephalic nucleus	PrS	presubiculum	XI	Pons (metencephalon)
ec	external capsule	PV	paraventricular thalamic nucleus		
eml	external medullary lamina	RMC	red nucleus, magnocellular part		
Er	entorhinal cortex				
EW	edinger-Westphal nucleus				
ex	extreme capsule				
fi	fimbria of the hippocampus				
fr	fasciculus retroflexus				
GrDG	granular layer of the dentate gyrus				

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

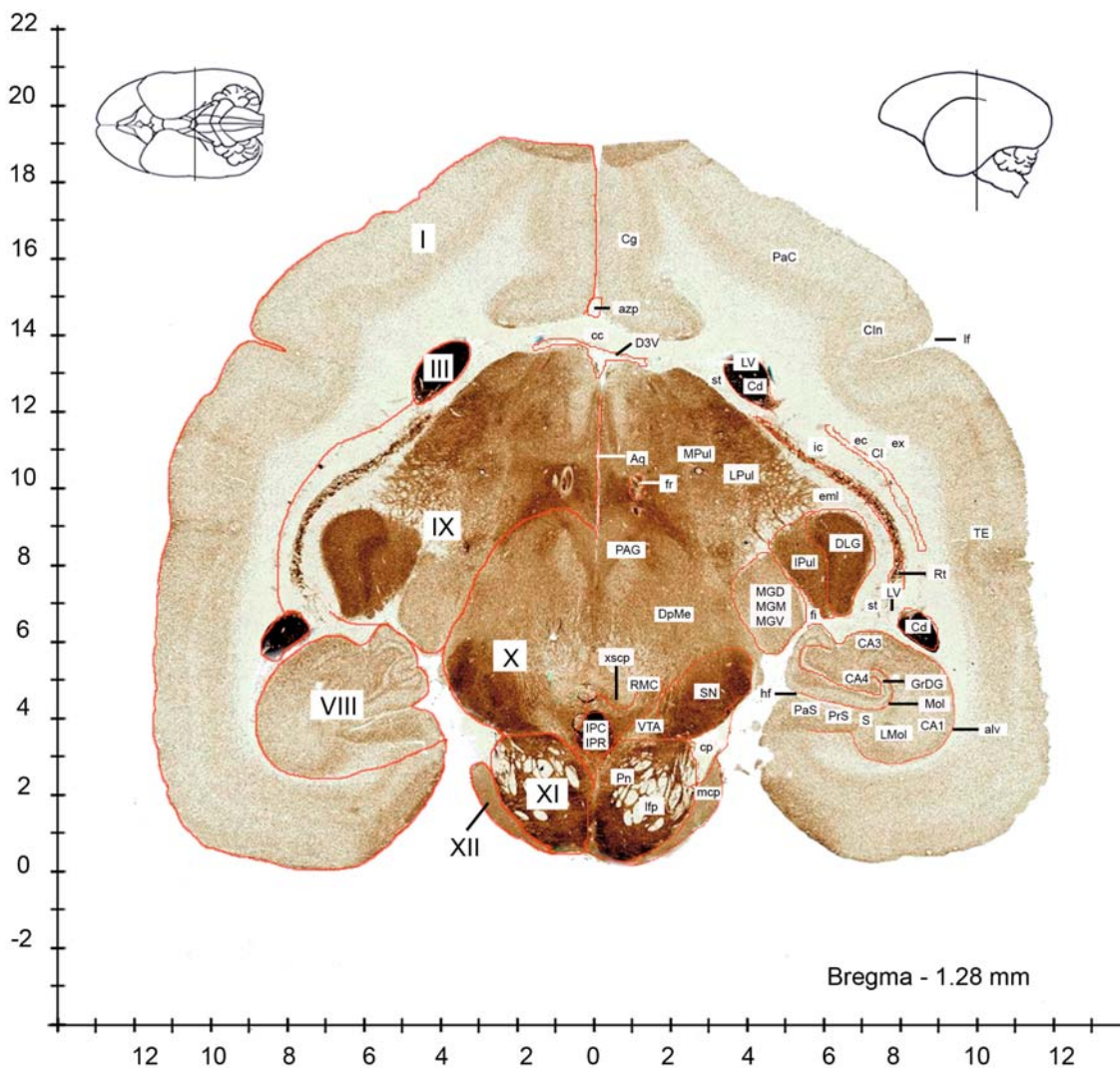


Figure 24

alv	alveus of the hippocampus	IPC	interpeduncular nucleus, caudal subnucleus	PrS	presubiculum
Aq	aqueduct	IPR	interpeduncular nucleus, rostral subnucleus	RMC	red nucleus, magnocellular part
azp	azygos pericallosal artery	IPul	inferior pulvinar	Rt	reticular thalamic nucleus
CA1	field CA1 of hippocampus	If	lateral fissure	S	subiculum
CA3	field CA3 of hippocampus	lfp	longitudinal fasciculus of the pons	SN	substantia nigra
CA4	field CA4 of hippocampus	LMol	lacunosum moleculare layer of the hippocampus	st	stria terminalis
cc	corpus callosum	LPul	lateral pulvinar	TE	temporal cortex
Cd	caudate nucleus	LV	lateral ventricle	VTA	ventral tegmental area
Cg	cingulate cortex	mcp	middle cerebellar peduncle	xscp	decussation of the superior cerebellar peduncle
CIn	insularis cortex	MGD	medial geniculate nucleus, dorsal part	I	Cerebral cortex (telencephalon)
Cl	claustrum	MGM	medial geniculate nucleus, medial part	III	Corpus striatum and related nuclei (telencephalon)
cp	cerebral peduncle, basal part	MGM	medial geniculate nucleus, medial part	VIII	Hippocampus (telencephalon)
D3V	dorsal 3rd ventricle	MGV	medial geniculate nucleus, ventral part	IX	Thalamus (diencephalon)
DLG	dorsal lateral geniculate nucleus	Mol	molecular layer of the dentate gyrus	X	Mesencephalon
DpMe	deep mesencephalic nucleus	MPul	medial pulvinar	XI	Pons (metencephalon)
ec	external capsule	PaC	parietal cortex	XII	Cerebellum (metencephalon)
eml	external medullary lamina	PAG	periaqueductal gray		
ex	extreme capsule	PaS	parasubiculum		
fi	fimbria of the hippocampus	Pn	pontine nuclei		
fr	fasciculus retroflexus				
GrDG	granular layer of the dentate gyrus				
hf	hippocampal fissure				
ic	internal capsule				

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

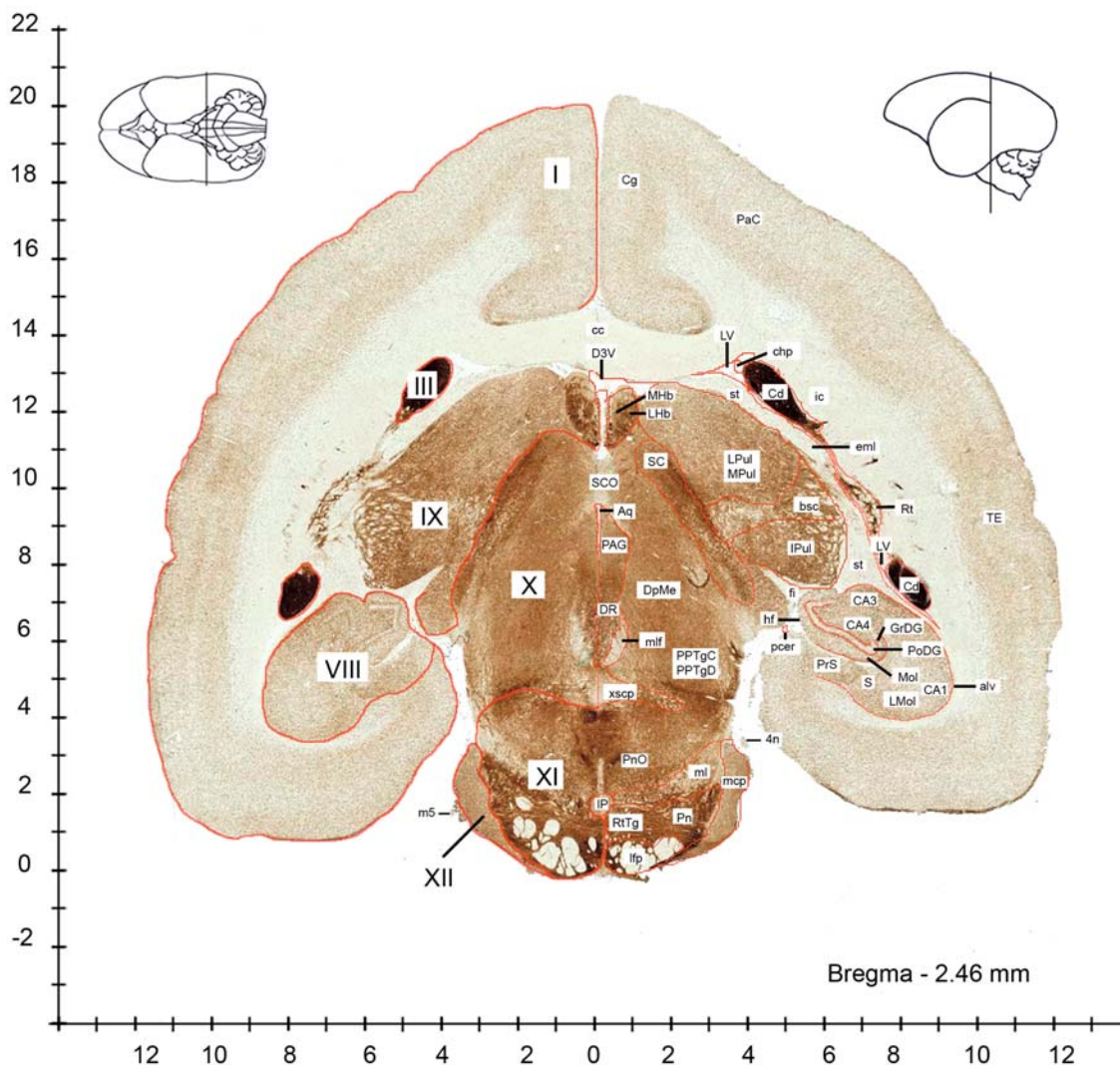


Figure 26

4n	trochlear nerve or its root	LMol	lacunosum moleculare layer of the hippocampus	RtTg	reticulotegmental nucleus of the pons
alv	alveus of the hippocampus	LPul	lateral pulvinar	S	subiculum
Aq	aqueduct	LV	lateral ventricle	SC	superior colliculus
bsc	brachium of the superior colliculus	m5	motor root of the trigeminal nerve	SCO	subcommissural organ
CA1	field CA1 of hippocampus	mcp	middle cerebellar peduncle	st	stria terminalis
CA3	field CA3 of hippocampus	MHb	medial habenular nucleus	TE	temporal cortex
CA4	field CA4 of hippocampus	ml	medial lemniscus	xscp	decussation of the superior cerebellar peduncle
cc	corpus callosum	mlf	medial longitudinal fasciculus		
Cd	caudate nucleus	Mol	molecular layer of the dentate gyrus		
Cg	cingulate cortex	MPul	medial pulvinar	I	Cerebral cortex (telencephalon)
chp	choroid plexus	PaC	parietal cortex	III	Corpus striatum and related nuclei (telencephalon)
D3V	dorsal 3rd ventricle	PAG	periaqueductal gray	VIII	Hippocampus (telencephalon)
DpMe	deep mesencephalic nucleus	pcer	posterior cerebral artery	IX	Thalamus (diencephalon)
DR	dorsal raphe nucleus	Pn	pontine nuclei	X	Mesencephalon
eml	external medullary lamina	PnO	pontine reticular nucleus, oral part	XI	Pons (metencephalon)
fi	fimbria of the hippocampus	PoDG	polymorph layer of the dentate gyrus	XII	Cerebellum (metencephalon)
GrDG	granular layer of the dentate gyrus	PPTgC	pedunculopontine tegmental nucleus, compact part		
hf	hippocampal fissure	PPTgD	pedunculopontine tegmental nucleus, diffuse part		
ic	internal capsule	PrS	presubiculum		
IP	interpeduncular nucleus	Rt	reticular thalamic nucleus		
IPul	inferior pulvinar				
lfp	longitudinal fasciculus of the pons				
LHb	lateral habenular nucleus				

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

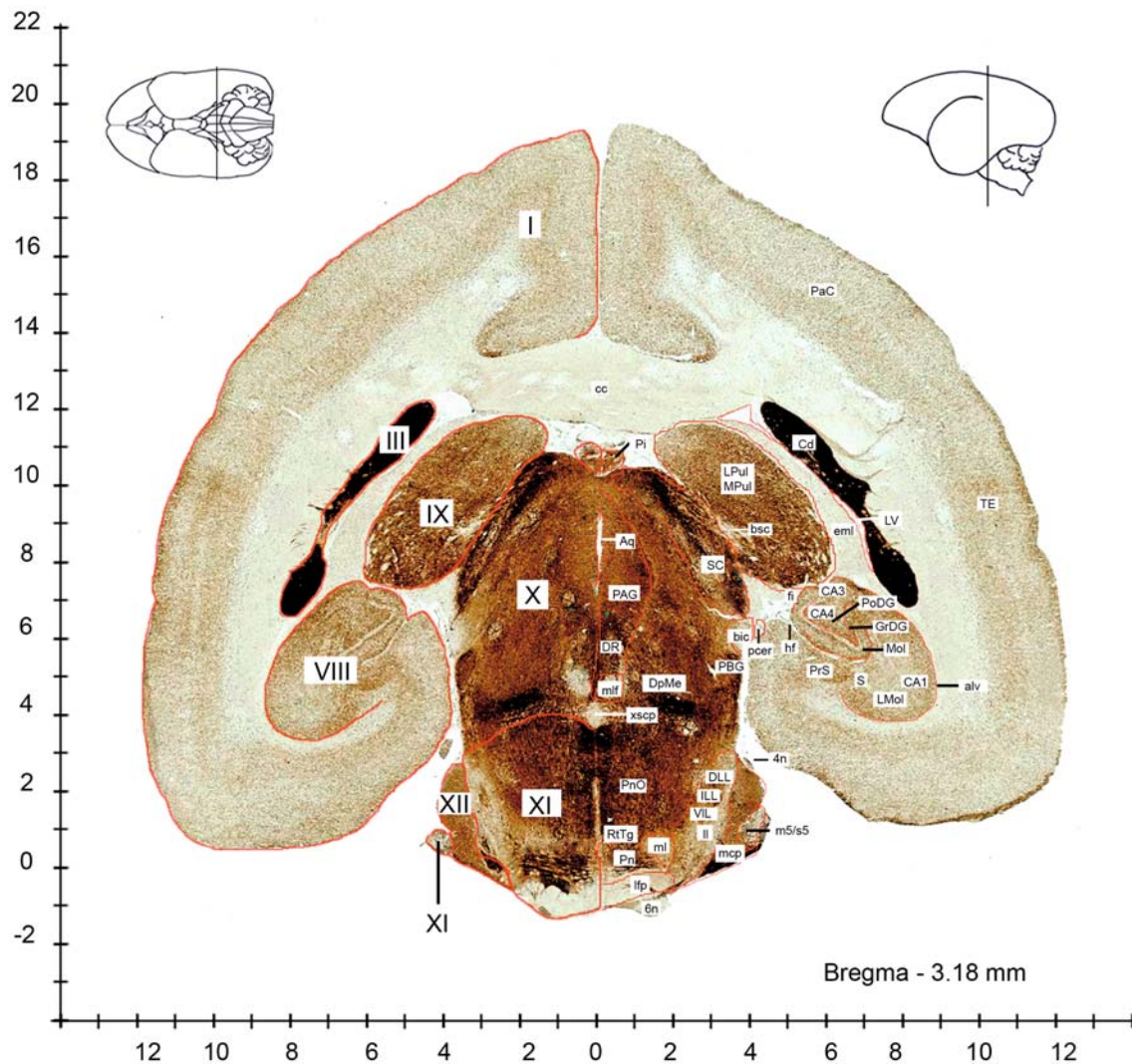


Figure 27

4 n	trochlear nerve or its root	ll	lateral lemniscus	S	subiculum
6 n	root of abducens nerve	LMol	lacunosum moleculare layer of the hippocampus	SC	superior colliculus
alv	alveus of the hippocampus	LPul	lateral pulvinar	s5	sensory root of the trigeminal nerve
Aq	aqueduct	LV	lateral ventricle	TE	temporal cortex
bic	brachium of the inferior colliculus	m5	motor root of the trigeminal nerve	VIL	ventral nucleus of the lateral lemniscus
bsc	brachium of the superior colliculus	mcp	middle cerebellar peduncle	xscp	decussation of the superior cerebellar peduncle
CA1	field CA1 of hippocampus	ml	medial lemniscus	I	Cerebral cortex (telencephalon)
CA3	field CA3 of hippocampus	mlf	medial longitudinal fasciculus	III	Corpus striatum and related nuclei (telencephalon)
CA4	field CA4 of hippocampus	Mol	molecular layer of the dentate gyrus	VIII	Hippocampus (telencephalon)
cc	corpus callosum	MPul	medial pulvinar	IX	Thalamus (diencephalon)
Cd	caudate nucleus	PaC	parietal cortex	X	Mesencephalon
DLL	dorsal nucleus of the lateral lemniscus	PAG	periaqueductal gray	XI	Pons (metencephalon)
DpMe	deep mesencephalic nucleus	PBG	parabigeminal nucleus	XII	Cerebellum (metencephalon)
DR	dorsal raphe nucleus	pcer	posterior cerebral artery		
eml	external medullary lamina	Pi	pineal gland		
fi	fimbria of the hippocampus	Pn	pontine nuclei		
GrDG	granular layer of the dentate gyrus	PnO	pontine reticular nucleus, oral part		
hf	hippocampal fissure	PoDG	polymorph layer of the dentate gyrus		
ILL	intermediate nucleus of the lateral lemniscus	PrS	presubiculum		
lfp	longitudinal fasciculus of the pons	RtTg	reticulotegmental nucleus of the pons		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

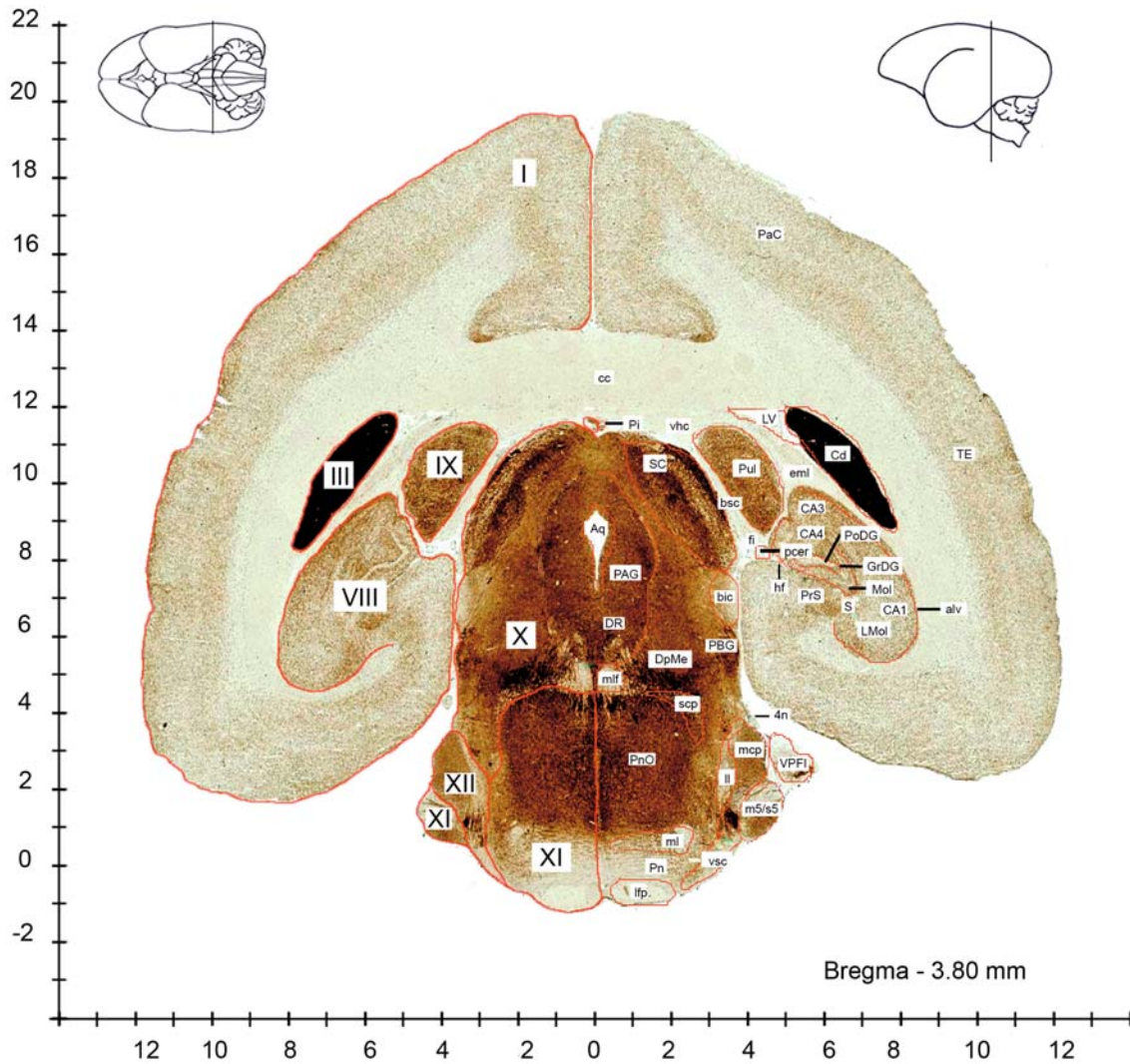


Figure 28

4 n	trochlear nerve or its root	LV	lateral ventricle	scp	superior cerebellar peduncle (brachium conjunctivum)
alv	alveus of the hippocampus	m5	motor root of the trigeminal nerve	TE	temporal cortex
Aq	aqueduct	mcp	middle cerebellar peduncle	vhc	ventral hippocampal commissure
bic	brachium of the inferior colliculus	ml	medial lemniscus	VPF	ventral paraflocculus
bsc	brachium of the superior colliculus	mlf	medial longitudinal fasciculus	vsc	ventral spinocerebellar tract
CA1	field CA1 of hippocampus	Mol	molecular layer of the dentate gyrus		
CA3	field CA3 of hippocampus	PAG	periaqueductal gray	I	Cerebral cortex (telencephalon)
CA4	field CA4 of hippocampus	PBG	parabigeminal nucleus	III	Corpus striatum and related nuclei (telencephalon)
cc	corpus callosum	pcer	posterior cerebral artery	VIII	Hippocampus (telencephalon)
Cd	caudate nucleus	Pi	pineal gland	IX	Thalamus (diencephalon)
DpMe	deep mesencephalic nucleus	Pn	pontine nuclei	X	Mesencephalon
DR	dorsal raphe nucleus	PnO	pontine reticular nucleus, oral part	XI	Pons (metencephalon)
eml	external medullary lamina	PoDG	polymorph layer of the dentate gyrus	XII	Cerebellum (metencephalon)
fi	fimbria of the hippocampus	PrS	presubiculum		
GrDG	granular layer of the dentate gyrus	Pul	pulvinar nuclei		
hf	hippocampal fissure	S	subiculum		
lfp	longitudinal fasciculus of the pons	s5	sensory root of the trigeminal nerve		
LMol	lacunosum moleculare layer of the hippocampus	SC	superior colliculus		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

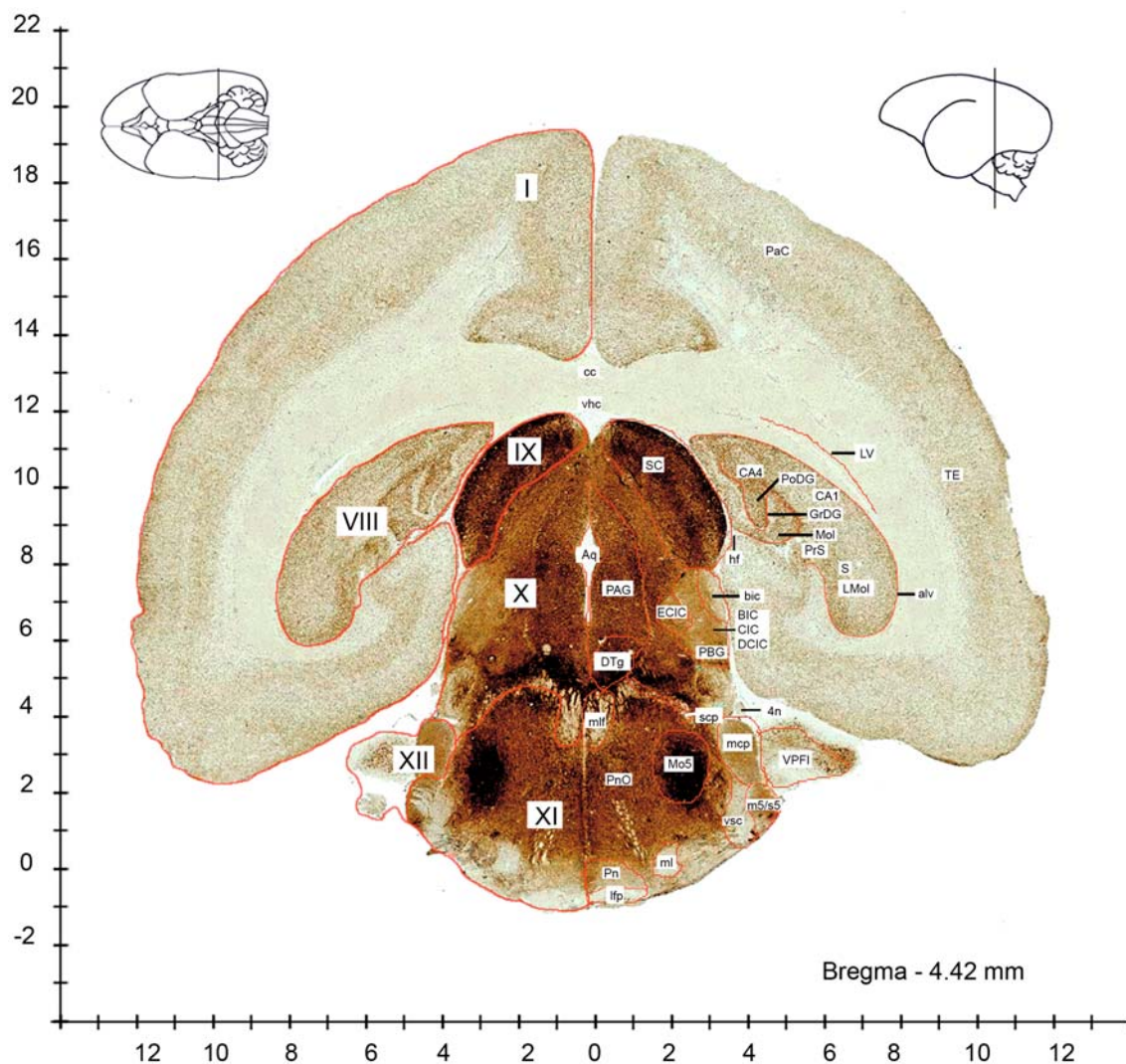


Figure 29

4n	trochlear nerve or its root	lfp	longitudinal fasciculus of the pons	s5	sensory root of the trigeminal nerve
alv	alveus of the hippocampus	LMol	lacunosum moleculare layer of the hippocampus	SC	superior colliculus
Aq	aqueduct	LV	lateral ventricle	scp	superior cerebellar peduncle (brachium conjunctivum)
BIC	nucleus of the brachium of the inferior colliculus	m5	motor root of the trigeminal nerve	TE	temporal cortex
bic	brachium of the inferior colliculus	mcp	middle cerebellar peduncle	vhc	ventral hippocampal commissure
CA1	field CA1 of hippocampus	ml	medial lemniscus	VPFI	ventral paraflocculus
CA4	field CA4 of hippocampus	mlf	medial longitudinal fasciculus	vsc	ventral spinocerebellar tract
CIC	central nucleus of the inferior colliculus	Mo5	motor trigeminal nucleus		
cc	corpus callosum	Mol	molecular layer of the dentate gyrus	I	Cerebral cortex (telencephalon)
DCIC	dorsal cortex of the inferior colliculus	PaC	parietal cortex	VIII	Hippocampus (telencephalon)
DTg	dorsal tegmental nucleus	PAG	periaqueductal gray	IX	Thalamus (diencephalon)
ECIC	external cortex of the inferior colliculus	PBG	parabigeminal nucleus	X	Mesencephalon
GrDG	granular layer of the dentate gyrus	Pn	pontine nuclei	XI	Pons (metencephalon)
hf	hippocampal fissure	PnO	pontine reticular nucleus, oral part	XII	Cerebellum (metencephalon)
		PoDG	polymorph layer of the dentate gyrus		
		PrS	presubiculum		
		S	subiculum		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

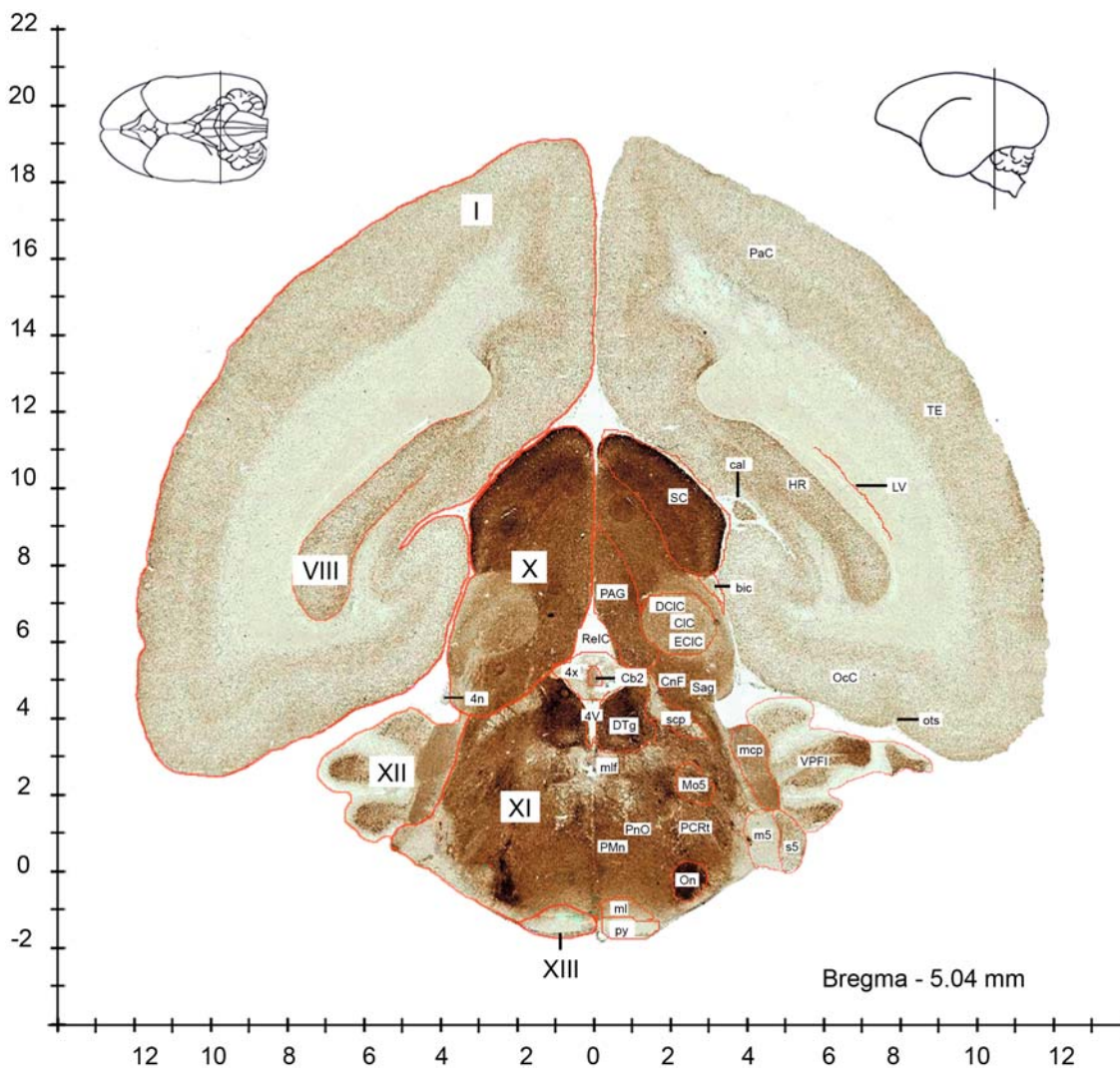


Figure 30

4 n trochlear nerve or its root

4 V 4th ventricle

4x trochlear decussation

bic brachium of the inferior colliculus

cal calcarine sulcus

Cb2 cerebellar lobule 2

CIC central nucleus of the inferior colliculus

CnF cuneiform nucleus

DCIC dorsal cortex of the inferior colliculus

DTg dorsal tegmental nucleus

ECIC external cortex of the inferior colliculus

HR hippocampus supra commissuralis

LV lateral ventricle

m5 motor root of the trigeminal nerve

mcp middle cerebellar peduncle

ml medial lemniscus

mlf medial longitudinal fasciculus

Mo5 motor trigeminal nucleus

OcC occipital cortex

On olivary nuclei

ots occipitotemporal sulcus

PaC parietal cortex

PAG periaqueductal gray

PCRt parvicellular reticular nucleus

PMn paramedian reticular nucleus

PnO pontine reticular nucleus, oral part

py pyramidal tract

ReIC recess of the inferior colliculus

s5 sensory root of the trigeminal nerve

Sag sagulum nucleus

SC superior colliculus

scp superior cerebellar peduncle

(brachium conjunctivum)

TE temporal cortex

VPFI ventral paraflocculus

I Cerebral cortex (Telencephalon)

VIII Hippocampus (Telencephalon)

X Mesencephalon

XI Pons (Metencephalon)

XII Cerebellum (Metencephalon)

XIII Medulla (Myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

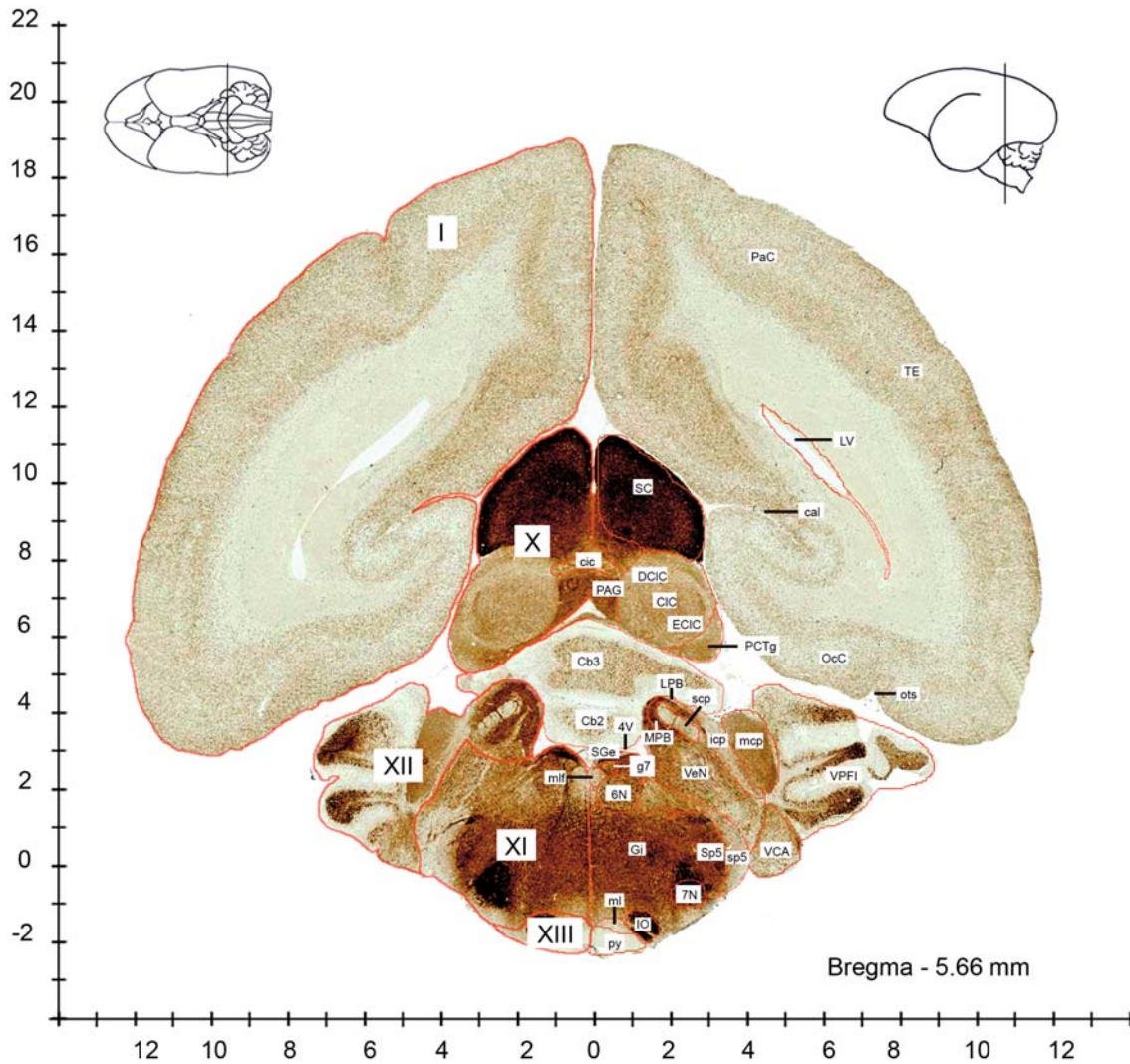


Figure 31

4V 4th ventricle
 6N abducens nucleus
 7N facial nucleus
 cal calcarine sulcus
 Cb2 cerebellar lobule 2
 Cb3 cerebellar lobule 3
 CIC central nucleus of the inferior colliculus
 cic commissure of the inferior colliculus
 DCIC dorsal cortex of the inferior colliculus
 ECIC external cortex of the inferior colliculus
 g7 genu of the facial nerve
 Gi gigantocellular reticular nucleus
 icp inferior cerebral peduncle (restiform body)

IO inferior olive
 LPB lateral parabrachial nucleus
 LV lateral ventricle
 mcp middle cerebellar peduncle
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 MPB medial parabrachial nucleus
 OcC occipital cortex
 ots occipitotemporal sulcus
 PaC parietal cortex
 PAG periaqueductal gray
 PCTg paracollicular tegmentum
 py pyramidal tract
 SC superior colliculus
 scp superior cerebellar peduncle (brachium conjunctivum)
 SGe supragenual nucleus
 Sp5 spinal trigeminal nucleus

sp5 spinal trigeminal tract
 TE temporal cortex
 VCA ventral cochlear nucleus, anterior part
 VeN vestibular nuclei
 VPF1 ventral paraflocculus

I Cerebral Cortex (telencephalon)
 X Mesencephalon
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

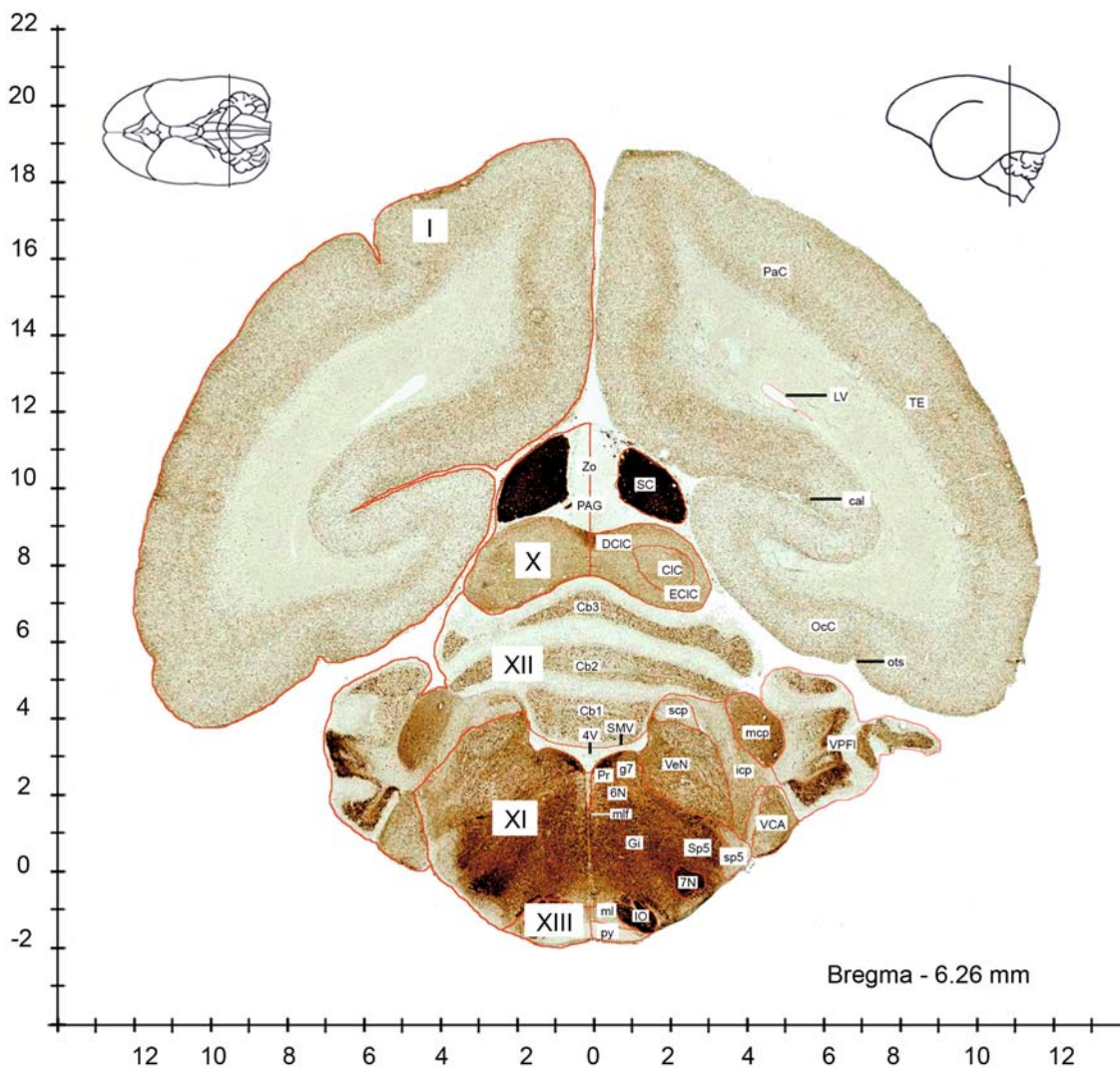


Figure 32

4 V 4th ventricle
 6 N abducens nucleus
 7 N facial nucleus
 cal calcarine sulcus
 Cb1 cerebellar lobule 1
 Cb2 cerebellar lobule 2
 Cb3 cerebellar lobule 3
 CIC central nucleus of the inferior colliculus
 DCIC dorsal cortex of the inferior colliculus
 ECIC external cortex of the inferior colliculus
 g7 genu of the facial nerve
 Gi gigantocellular reticular nucleus
 icp inferior cerebral peduncle (restiform body)

IO inferior olive
 LV lateral ventricle
 mcp middle cerebellar peduncle
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 OeC occipital cortex
 ots occipitotemporal sulcus
 PaC parietal cortex
 PAG periaqueductal gray
 Pr prepositus nucleus
 py pyramidal tract
 SC superior colliculus
 scp superior cerebellar peduncle (brachium conjunctivum)
 SMV superior medullary velum
 Sp5 spinal trigeminal nucleus
 sp5 spinal trigeminal tract
 TE temporal cortex

VCA ventral cochlear nucleus, anterior part
 VeN vestibular nuclei
 VPFi ventral paraflocculus
 Zo zonal layer of the superior colliculus

I Cerebral cortex (telencephalon)
 X Mesencephalon
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

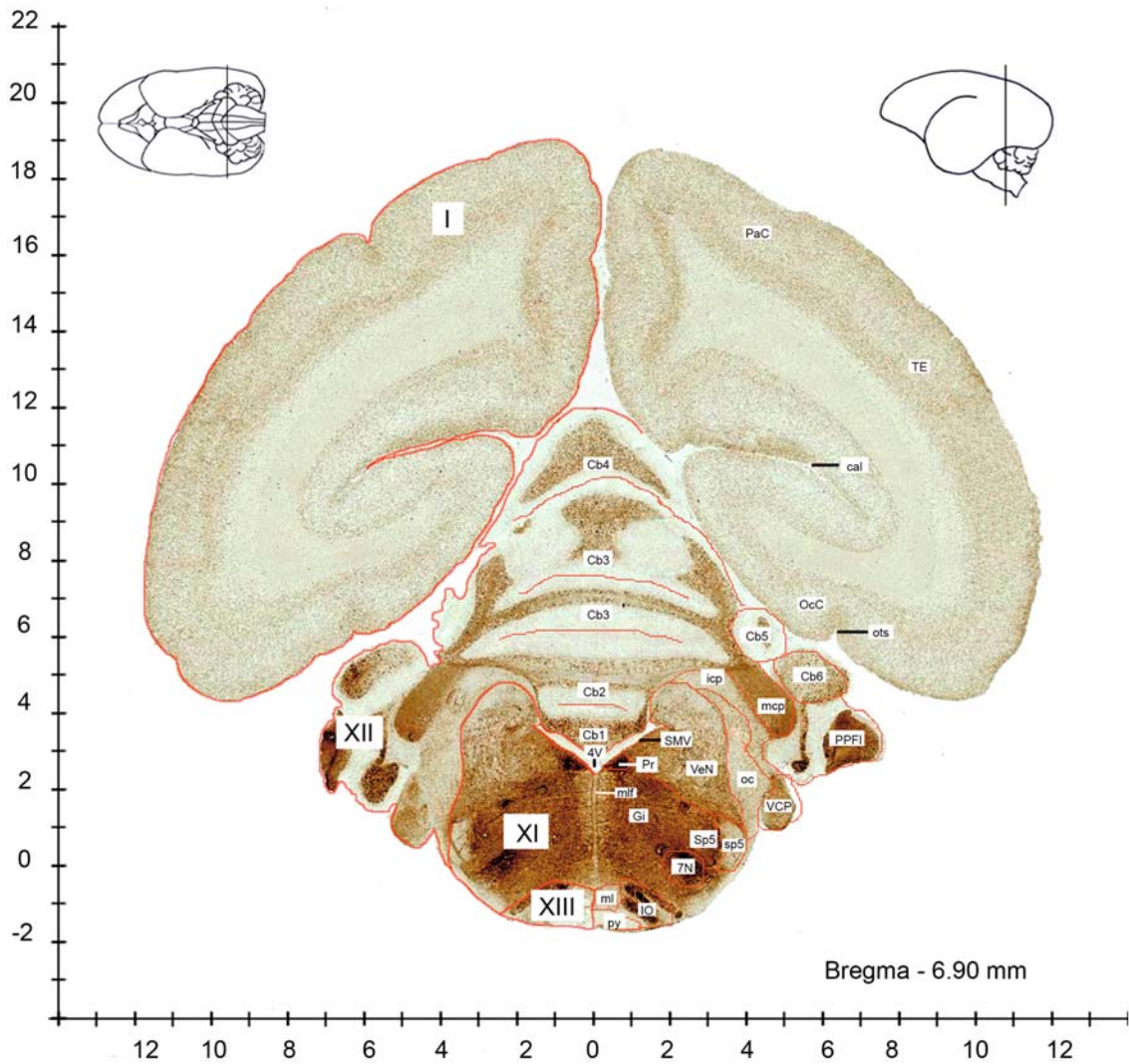


Figure 33

4V	4th ventricle	mcp	middle cerebellar peduncle	TE	temporal cortex
7N	facial nucleus	ml	medial lemniscus	VCP	ventral cochlear nucleus, posterior part
cal	calcarine sulcus	mlf	medial longitudinal fasciculus	VeN	vestibular nuclei
Cb1	cerebellar lobule 1	oc	olivocerebellar tract		
Cb2	cerebellar lobule 2	OcC	occipital cortex	I	Cerebral cortex (telencephalon)
Cb3	cerebellar lobule 3	ots	occipitotemporal sulcus	XI	Pons (metencephalon)
Cb4	cerebellar lobule 4	PaC	parietal cortex	XII	Cerebellum (metencephalon)
Cb5	cerebellar lobule 5	PPFI	posterior paraflocculus	XIII	Medulla (myelencephalon)
Cb6	cerebellar lobule 6	Pr	prepositus nucleus		
Gi	gigantocellular reticular nucleus	py	pyramidal tract		
icp	inferior cerebellar peduncle (restiform body)	SMV	superior medullary velum		
IO	inferior olive	Sp5	spinal trigeminal nucleus		
		sp5	spinal trigeminal tract		

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

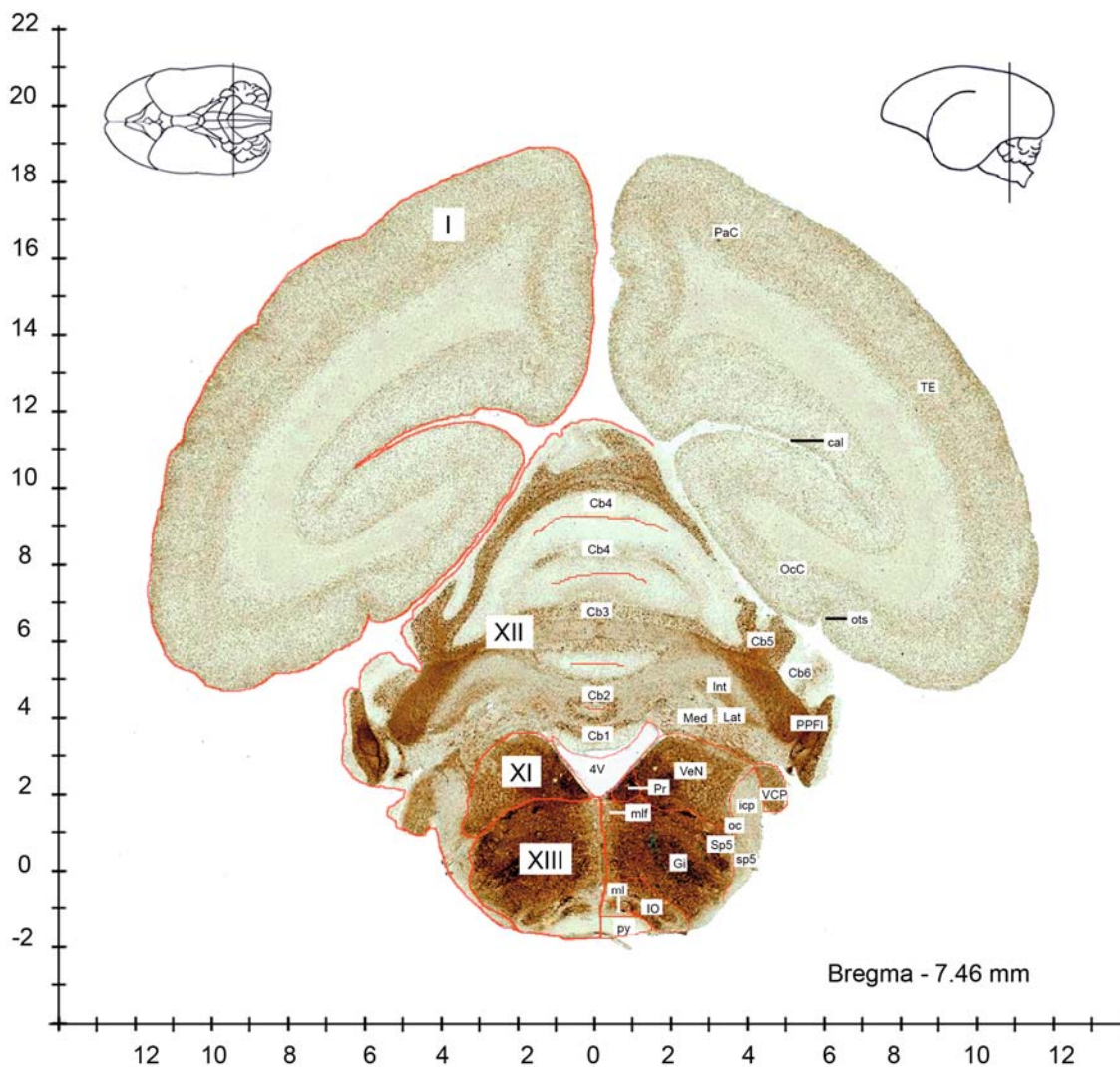


Figure 34

4 V 4th ventricle
 cal calcarine sulcus
 Cb1 cerebellar lobule 1
 Cb2 cerebellar lobule 2
 Cb3 cerebellar lobule 3
 Cb4 cerebellar lobule 4
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Gi gigantocellular reticular nucleus
 icp inferior cerebellar peduncle (restiform body)
 Int interposed cerebellar nucleus
 IO inferior olive

Lat lateral (dentate) cerebellar nucleus
 Med medial (fastigial) cerebellar nucleus
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 oc olivocerebellar tract
 OcC occipital cortex
 ots occipitotemporal sulcus
 PPF1 posterior paraflocculus
 Pr prepositus nucleus
 py pyramidal tract
 Sp5 spinal trigeminal nucleus
 sp5 spinal trigeminal tract
 TE temporal cortex

VCP ventral cochlear nucleus, posterior part
 VeN vestibular nuclei

I Cerebral cortex (telencephalon)
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

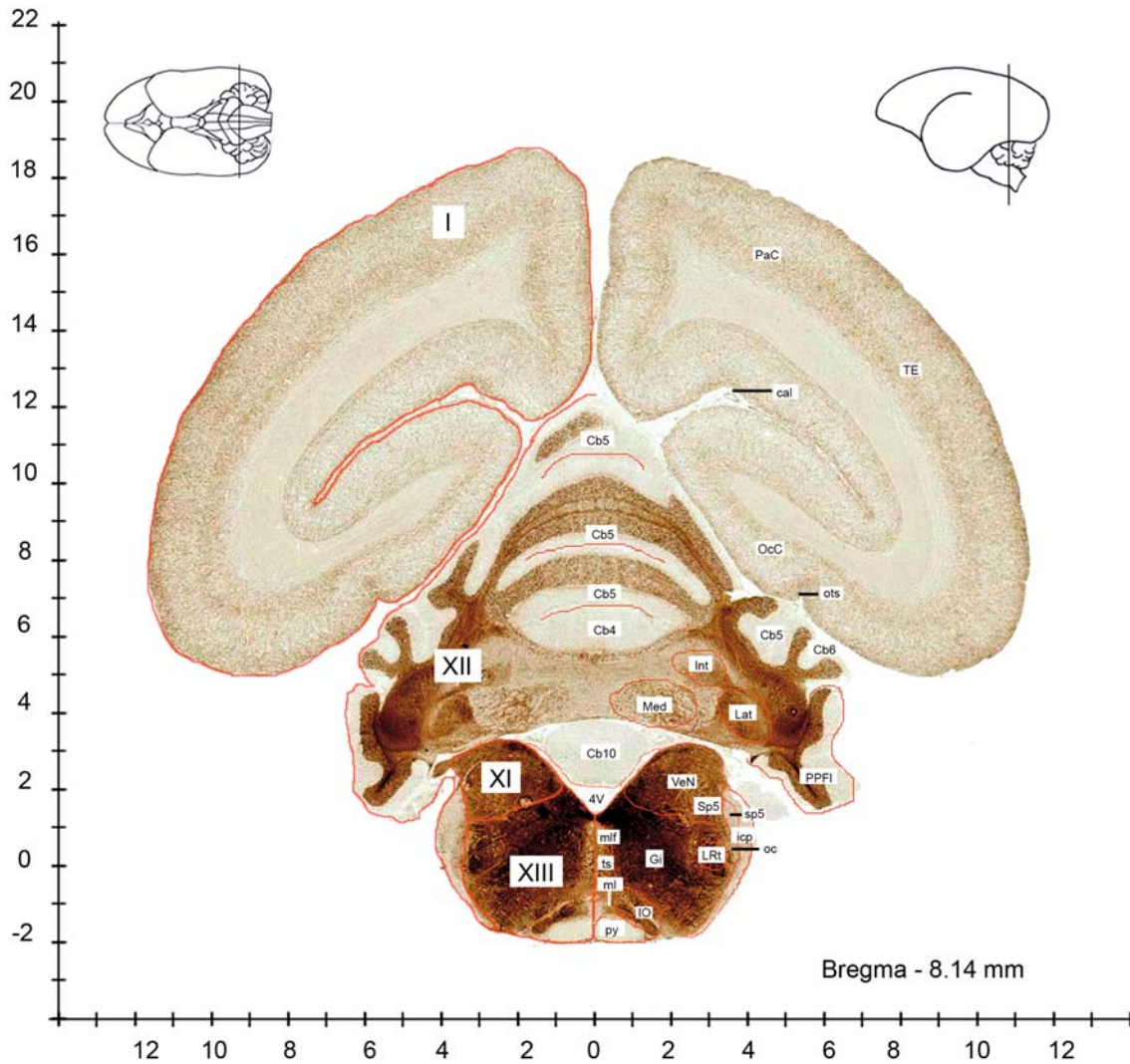


Figure 35

4V 4th ventricle
 cal calcarine sulcus
 Cb4 cerebellar lobule 4
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb10 cerebellar lobule 10
 Gi gigantocellular reticular nucleus
 icp inferior cerebellar peduncle (restiform body)
 Int interposed cerebellar nucleus
 IO inferior olive
 Lat lateral (dentate) cerebellar nucleus

LRt lateral reticular nucleus
 Med medial (fastigial) cerebellar nucleus
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 oc olivocerebellar tract
 OcC occipital cortex
 ots occipitotemporal sulcus
 PaC parietal cortex
 PPFi posterior paraflocculus
 py pyramidal tract
 Sp5 spinal trigeminal nucleus
 sp5 spinal trigeminal tract

TE temporal cortex
 ts tectospinal tract
 VeN vestibular nuclei

I Cerebral cortex (telencephalon)
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

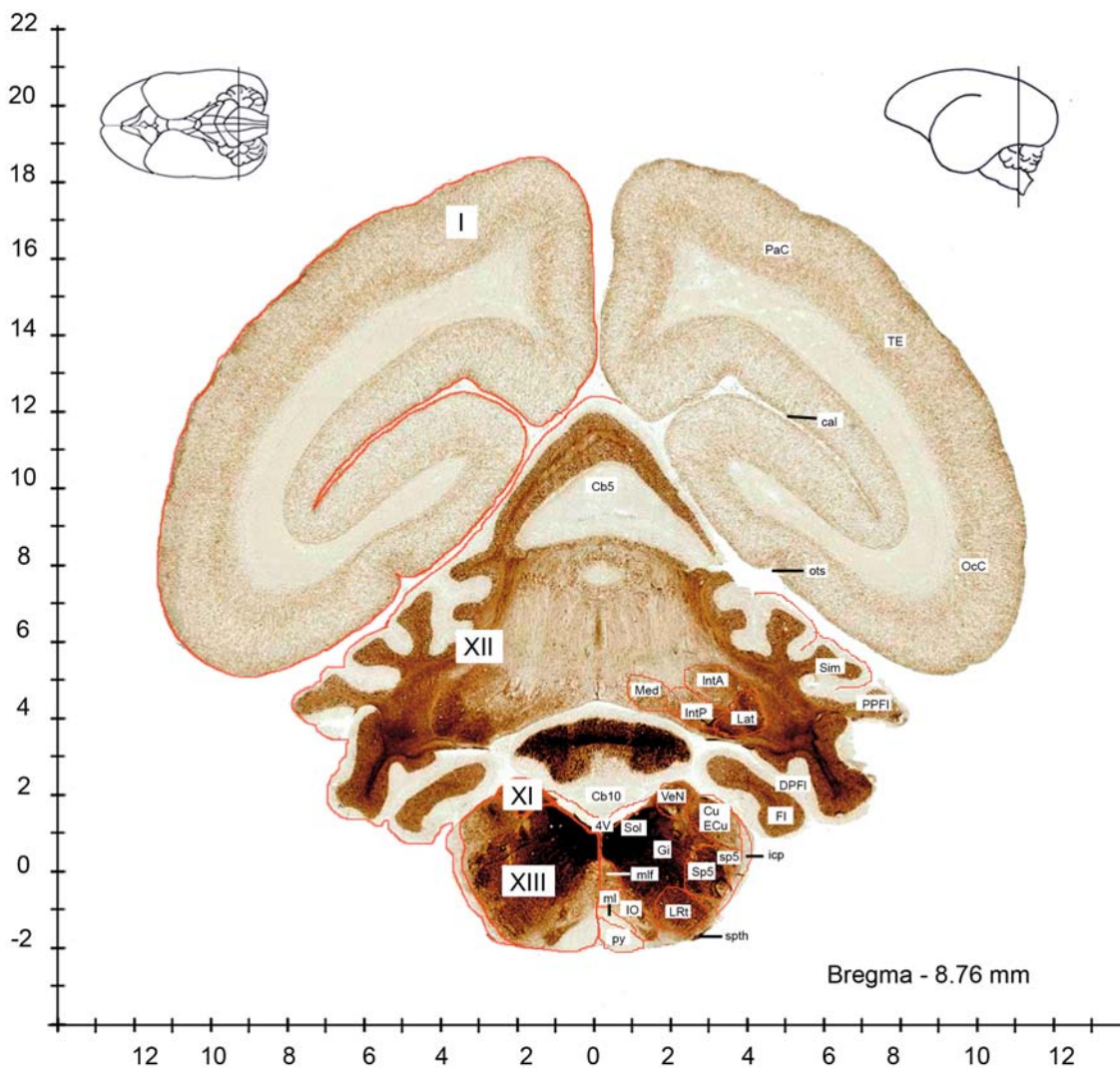


Figure 36

4 V 4th ventricle
 cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb10 cerebellar lobule 10
 Cu cuneate nucleus
 DPFI dorsal paraflocculus
 ECu external cuneate nucleus
 FI flocculus
 Gi gigantocellular reticular nucleus
 icp inferior cerebellar peduncle (restiform body)
 IntA interposed cerebellar nucleus, anterior part
 IntP interposed cerebellar nucleus, posterior part

IO inferior olive
 Lat lateral (dentate) cerebellar nucleus
 LRT lateral reticular nucleus
 Med medial (fastigial) cerebellar nucleus
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 OcC occipital cortex
 ots occipitotemporal sulcus
 PaC parietal cortex
 PPF1 posterior paraflocculus
 py pyramidal tract
 Sim simple lobule
 Sol solitary nucleus
 Sp5 spinal trigeminal nucleus
 sp5 spinal trigeminal tract

spth spinothalamic tract
 TE temporal cortex
 VeN vestibular nuclei

I Cerebral cortex (telencephalon)
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

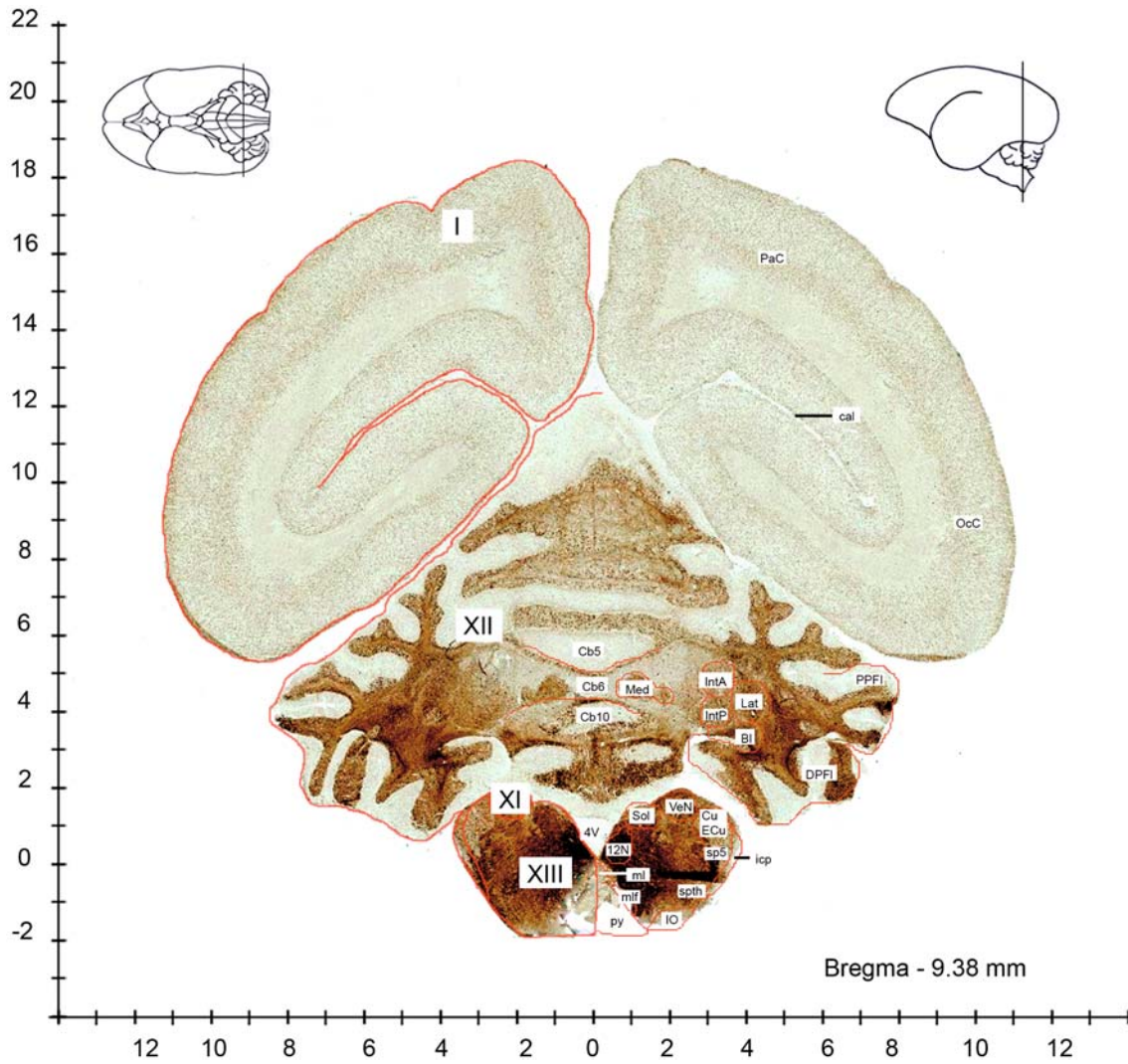


Figure 37

4V 4th ventricle
 12N hypoglossal nucleus
 BI basal interstitial
 cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb10 cerebellar lobule 10
 Cu cuneate nucleus
 DPFI dorsal paraflocculus
 ECU external cuneate nucleus
 icp inferior cerebellar peduncle (restiform body)
 IntA interposed cerebellar nucleus, anterior part

IntP interposed cerebellar nucleus, posterior part
 IO inferior olive
 Lat lateral (dentate) cerebellar nucleus
 Med medial (fastigial) cerebellar nucleus
 ml medial lemniscus
 mlf medial longitudinal fasciculus
 OcC occipital cortex
 PaC parietal cortex
 PPF posterior paraflocculus
 py pyramidal tract
 Sol solitary nucleus
 sp5 spinal trigeminal tract

spth spinothalamic tract
 VeN vestibular nuclei

I Cerebral cortex (telencephalon)
 XI Pons (metencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

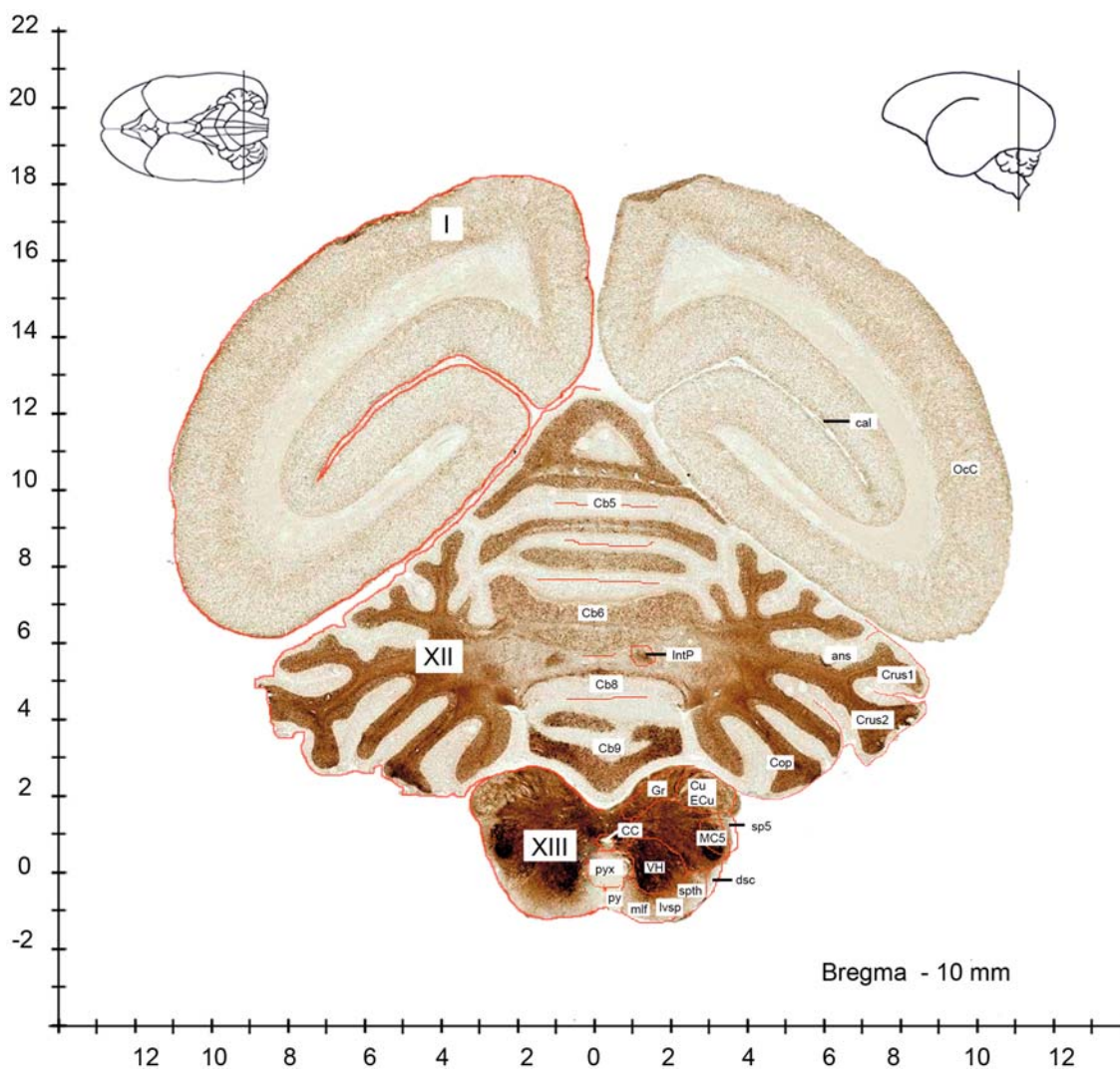


Figure 38

ans ansiform lobule of the cerebellum
 cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb8 cerebellar lobule 8
 Cb9 cerebellar lobule 9
 CC central canal
 Cop copula of the pyramis
 Crus1 crus1 of the ansiform lobule
 Crus2 crus2 of the ansiform lobule
 Cu cuneate nucleus
 dsc dorsal spinocerebellar tract

ECu external cuneate nucleus
 Gr gracile nucleus
 IntP interposed cerebellar nucleus,
 posterior part
 lvsp lateral vestibulospinal tract
 MC5 magnocellular layer of the caudal
 spinal trigeminal nucleus
 mlf medial longitudinal fasciculus
 OeC occipital cortex
 pyx pyramidal tract
 py pyramidal tract
 sp5 spinal trigeminal tract

spth spinothalamic tract
 VH ventral horn

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

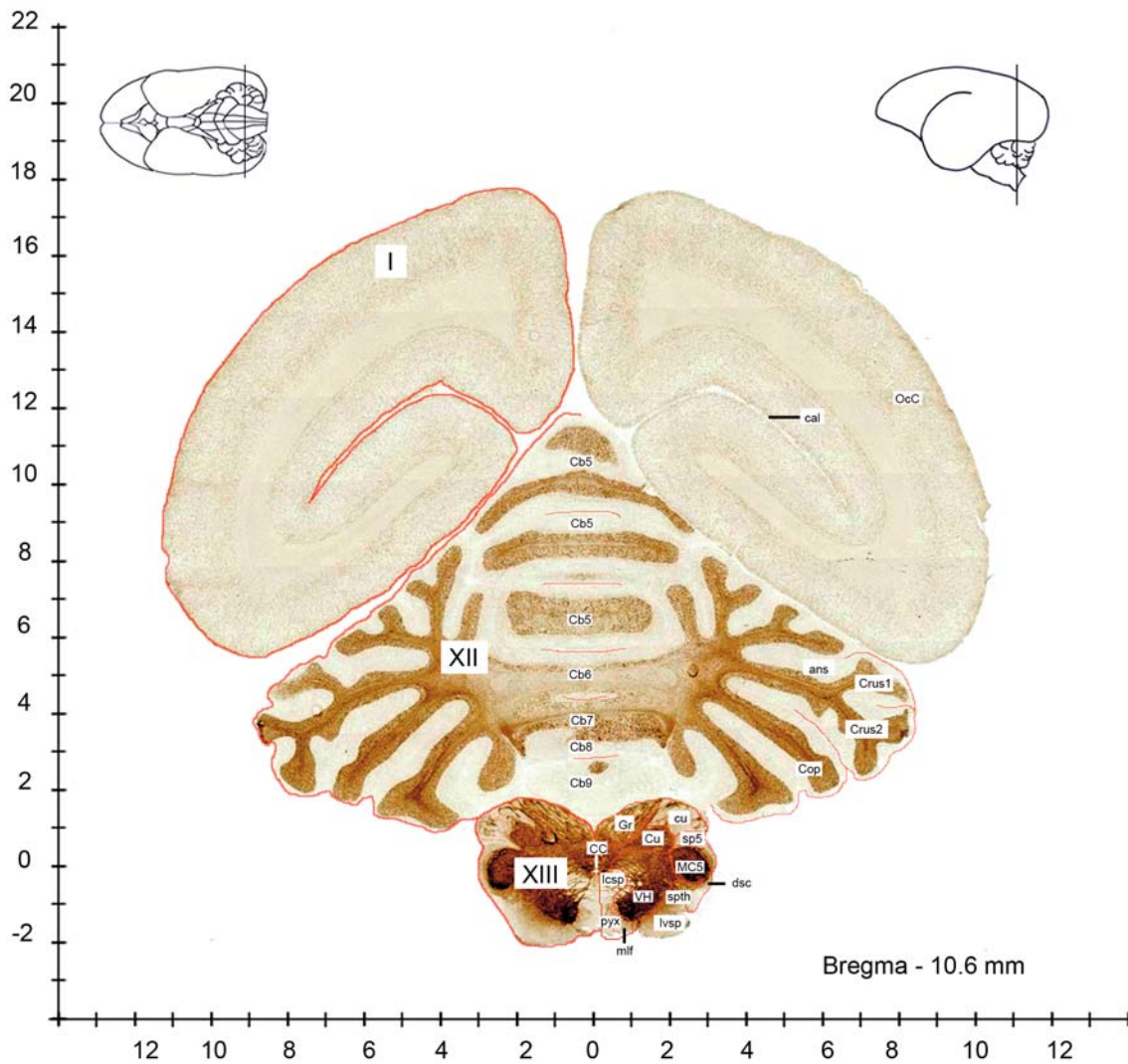


Figure 39

ans ansiform lobule of the cerebellum
 cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 Cb9 cerebellar lobule 9
 CC central canal
 Cop copula of the pyramis
 Crus1 crus1 of the ansiform lobule
 Crus2 crus2 of the ansiform lobule

Cu cuneate nucleus
 cu cuneate fasciculus
 dsc dorsal spinocerebellar tract
 Gr gracile nucleus
 lscsp lateral corticospinal tract
 lvsp lateral vestibulospinal tract
 MC5 magnocellular layer of the caudal
 Spinal trigeminal nucleus
 mlf medial longitudinal fasciculus
 pyx pyramidal decussation
 sp5 spinal trigeminal tract

spth spinothalamic tract
 VH ventral horn

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

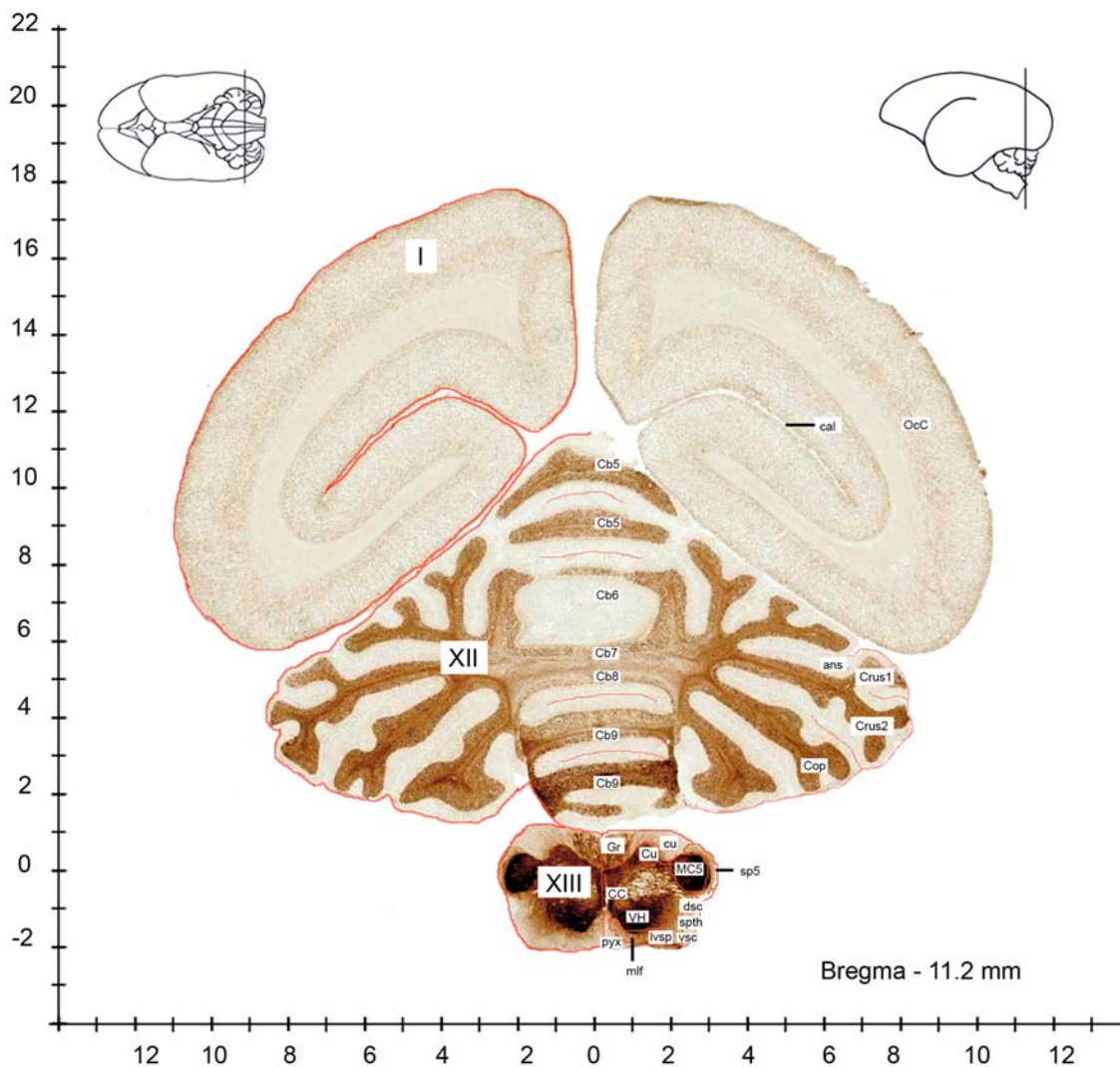


Figure 40

ans ansiform lobule of the cerebellum
 cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 Cb9 cerebellar lobule 9
 CC central canal
 Cop copula of the pyramis
 Crus1 crus1 of the ansiform lobule
 Crus2 crus2 of the ansiform lobule

Cu cuneate nucleus
 cu cuneate fasciculus
 dsc dorsal spinocerebellar tract
 Gr gracile nucleus
 lvsp lateral vestibulospinal tract
 MC5 magnocellular layer of the caudal
 Spinal trigeminal nucleus
 mlf medial longitudinal fasciculus
 OeC occipital cortex
 pyx pyramidal decussation
 sp5 spinal trigeminal tract

spth spinothalamic tract
 VH ventral horn
 vsc ventral spinocerebellar tract

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

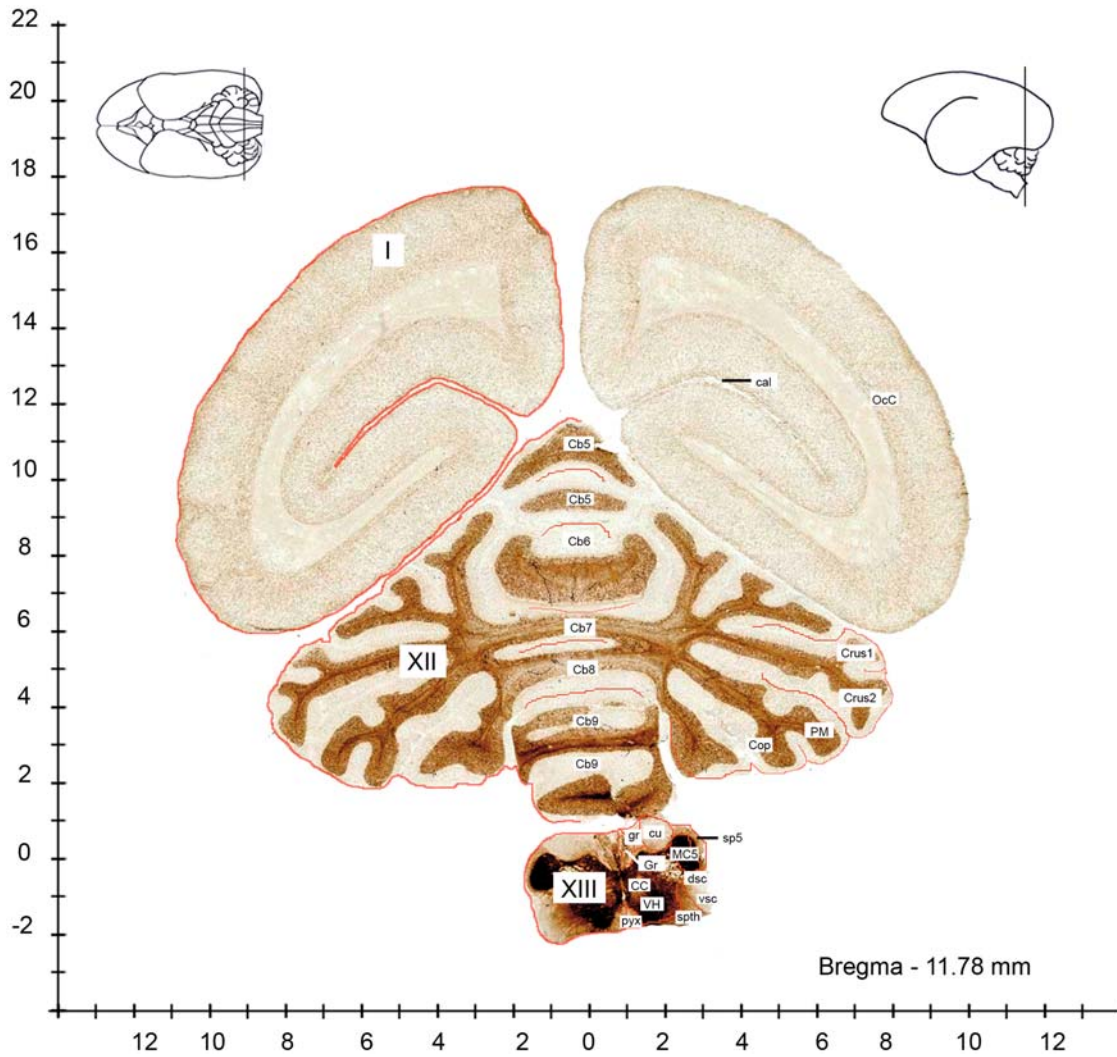


Figure 41

cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 Cb9 cerebellar lobule 9
 CC central canal
 Cop copula of the pyramis
 Crus1 crus1 of the ansiform lobule
 Crus2 crus 2 of the ansiform lobule
 cu cuneate fasciculus

dsc dorsal spinocerebellar tract
 Gr gracile nucleus
 gr gracile fasciculus
 MC5 magnocellular layer of the caudal
 spinal trigeminal nucleus
 OcC occipital cortex
 PM paramedian lobule
 pyx pyramidal decussation
 sp5 spinal trigeminal tract
 spth spinothalamic tract

VH ventral horn
 vsc ventral spinocerebellar tract

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)
 XIII Medulla (myelencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

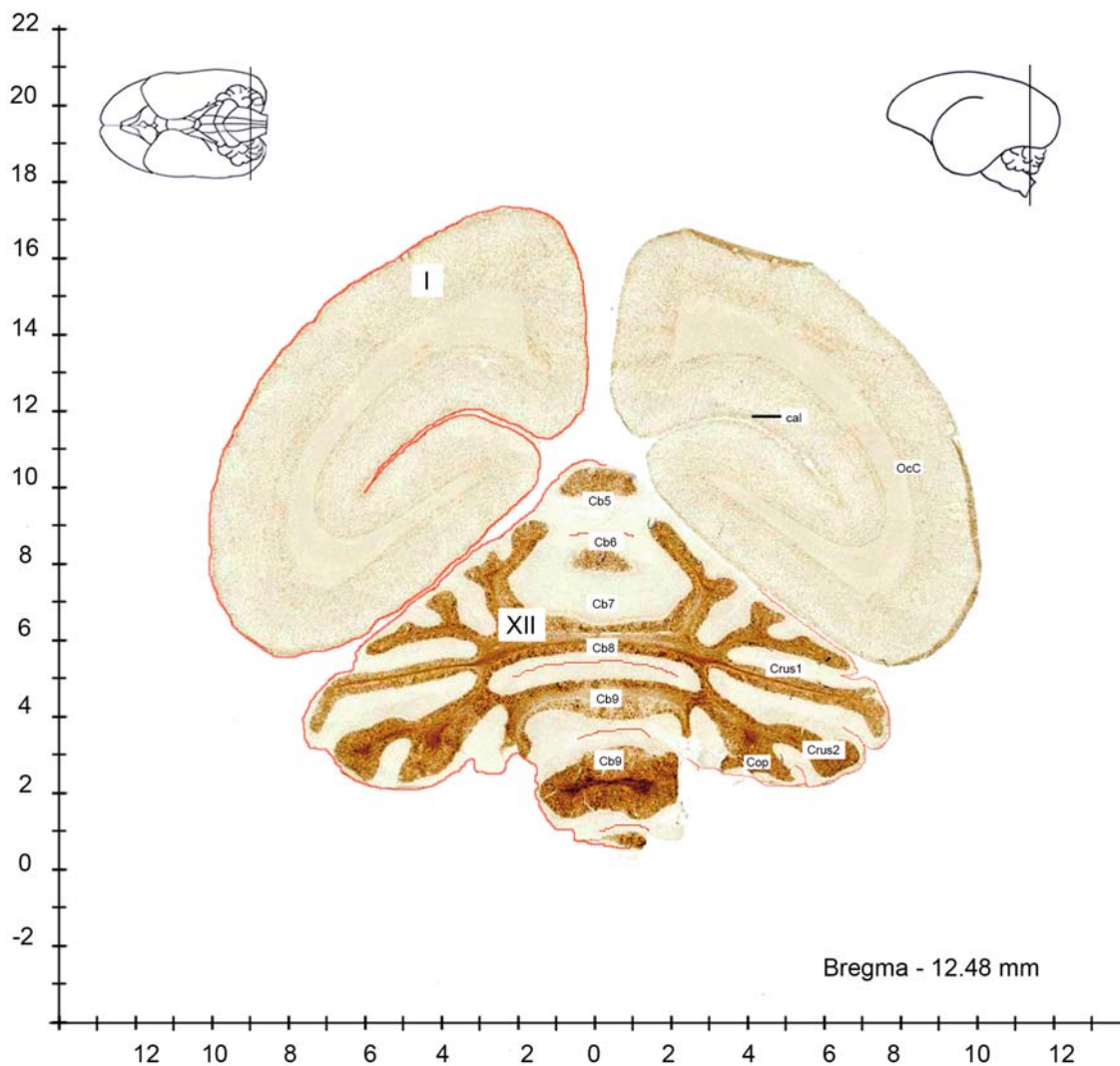


Figure 42

cal calcarine sulcus
 Cb5 cerebellar lobule 5
 Cb6 cerebellar lobule 6
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 Cb9 cerebellar lobule 9
 Cop copula of the pyramis

Crus1 crus1 of the ansiform lobule
 Crus2 crus 2 of the ansiform lobule
 OcC occipital cortex

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

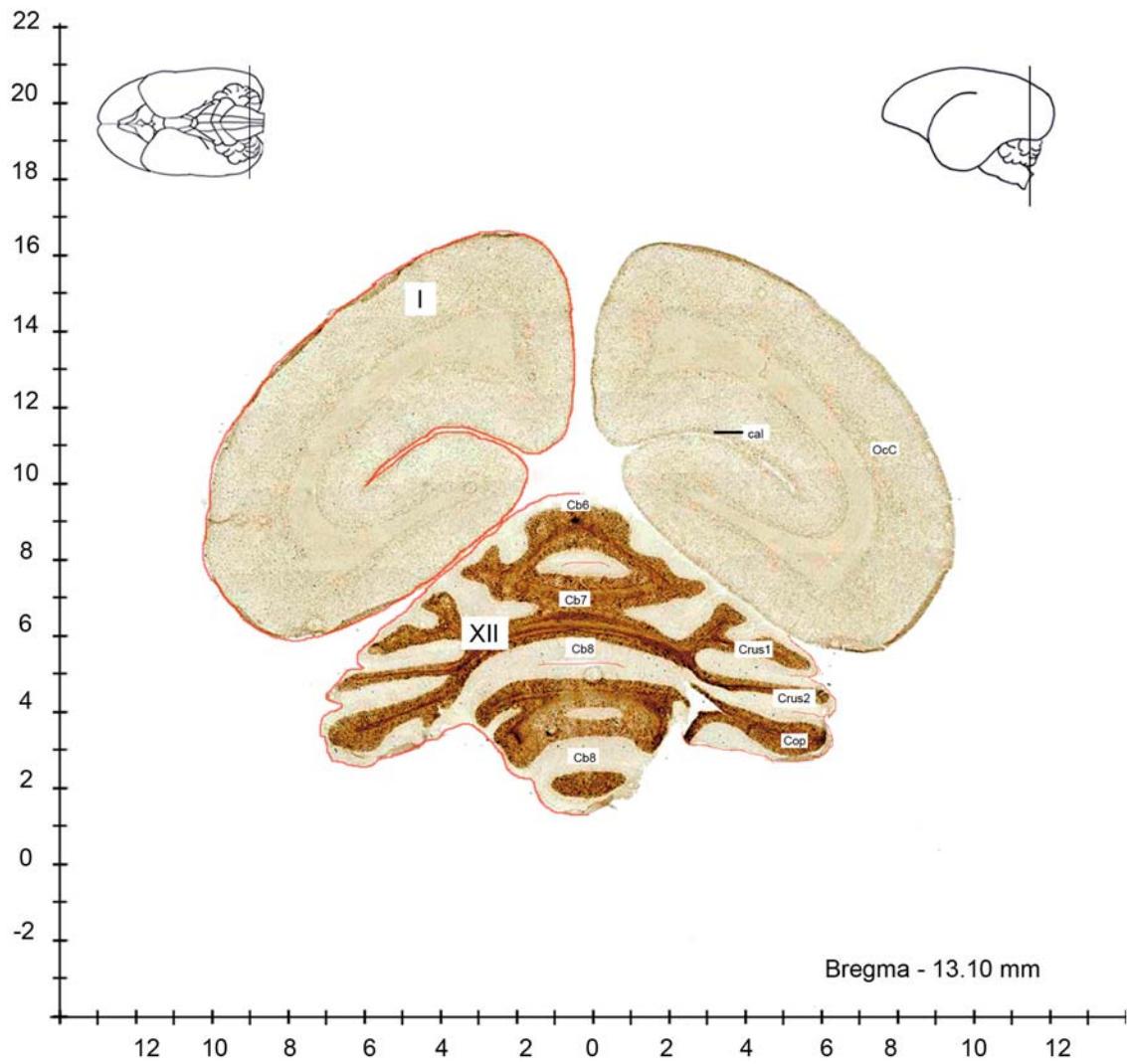


Figure 43

cal calcarine sulcus
 Cb6 cerebellar lobule 6
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 Cop copula of the pyramis
 Crus1 crus1 of the ansiform lobule

Crus2 crus 2 of the ansiform lobule
 OcC occipital cortex
 I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

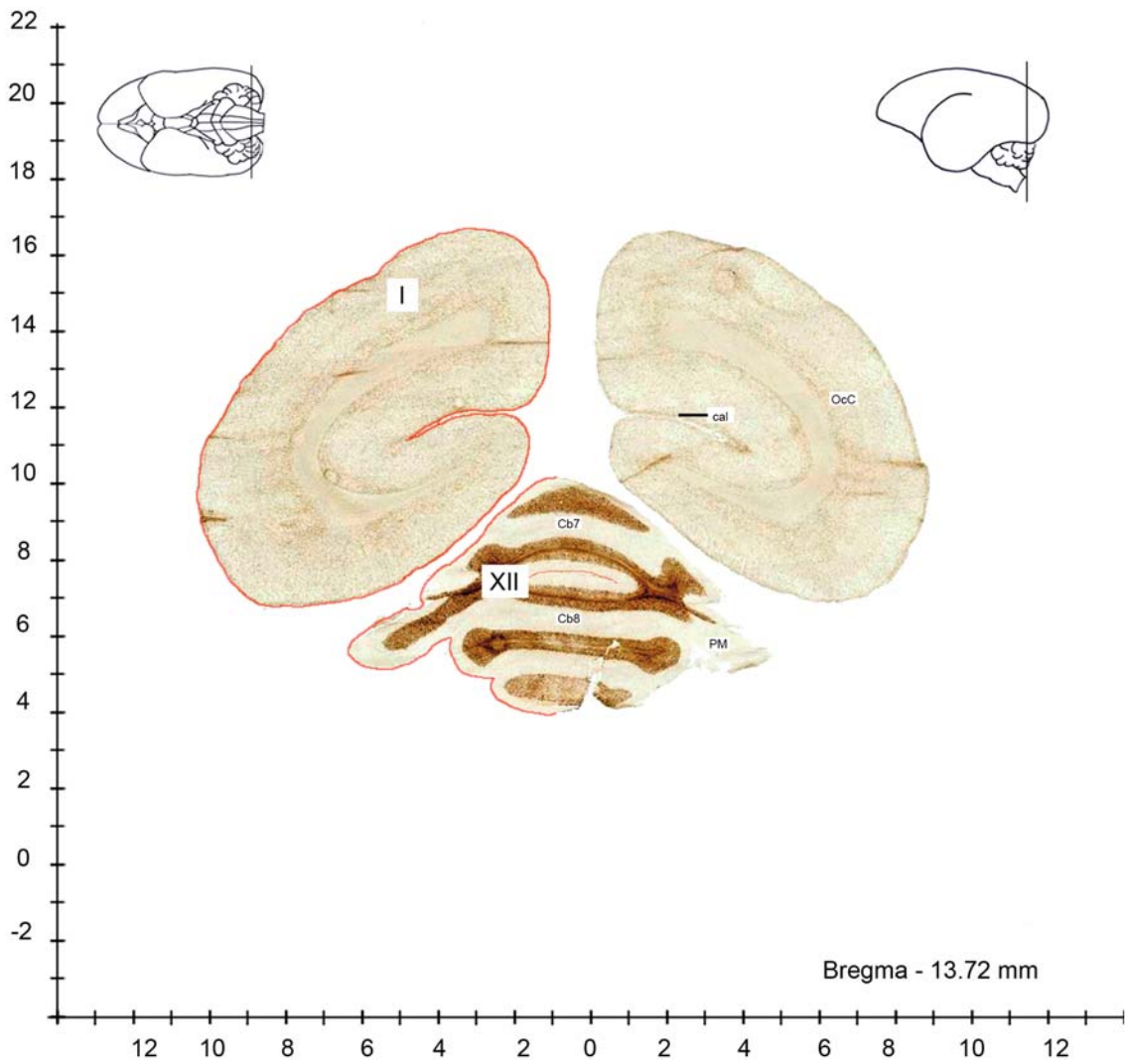


Figure 44

cal calcarine sulcus
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 OcC occipital cortex

PM paramedian lobule
 I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

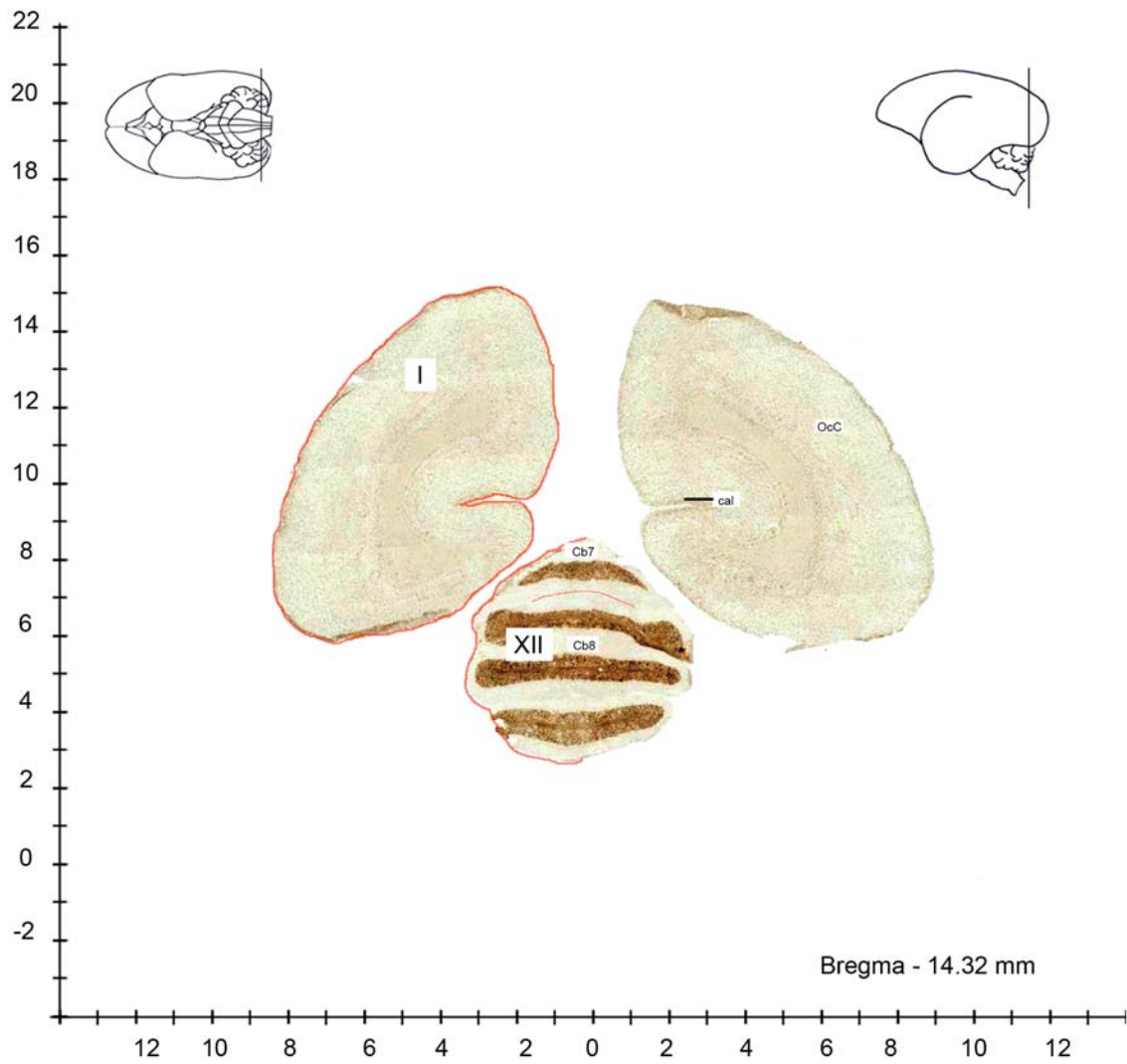


Figure 45

cal calcarine sulcus
 Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 OcC occipital cortex

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

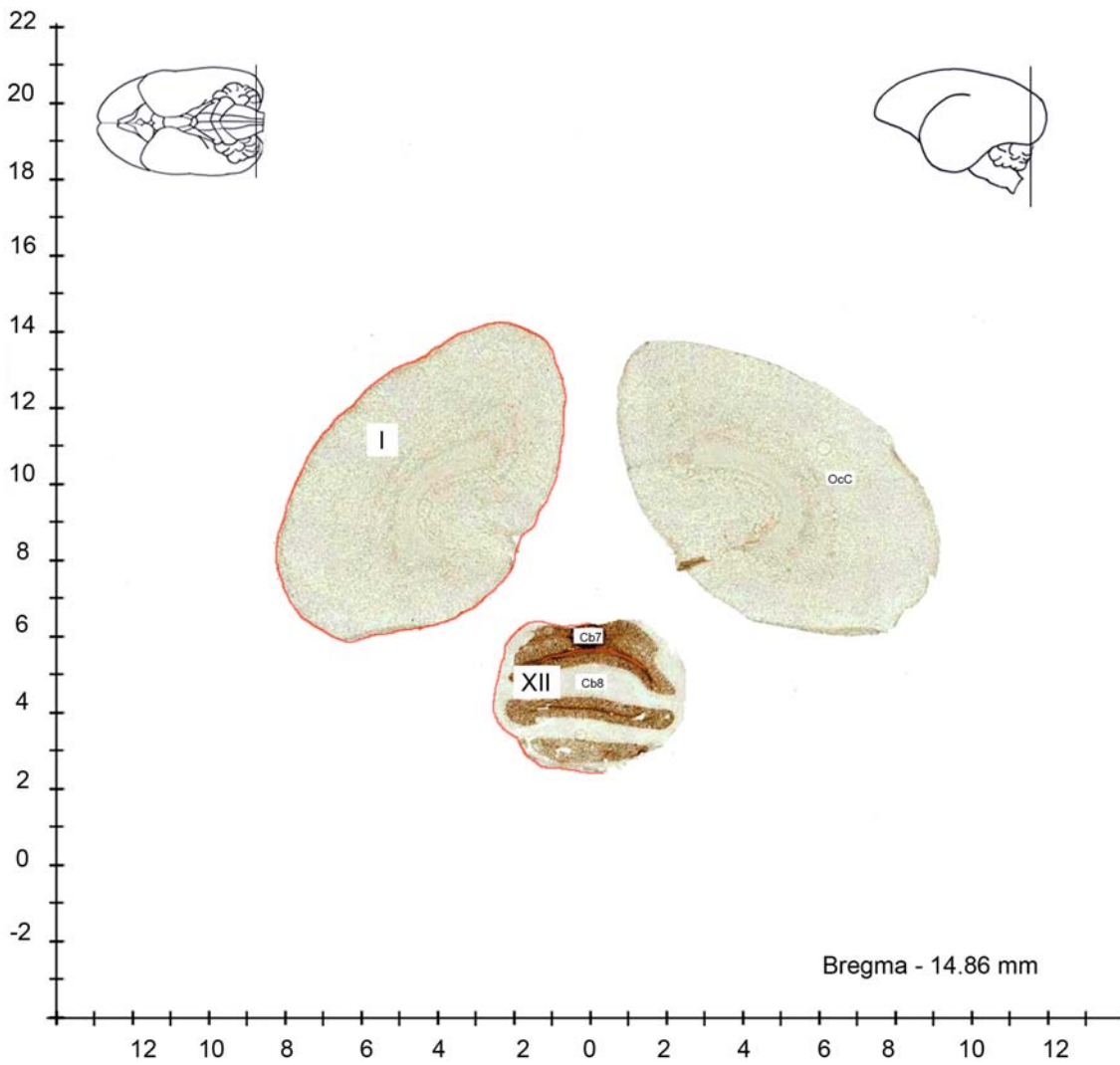


Figure 46

Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 OcC occipital cortex

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

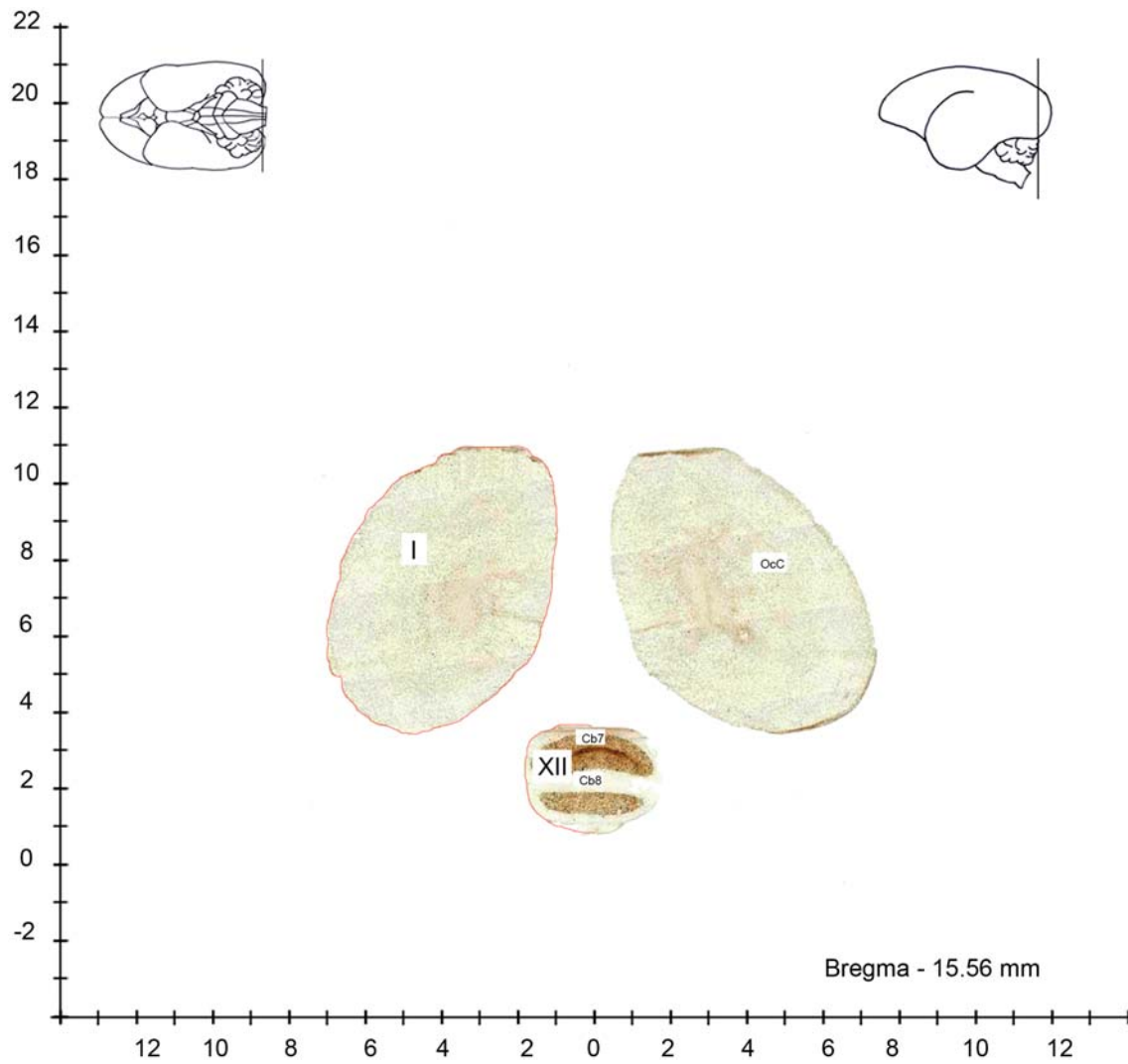


Figure 47

Cb7 cerebellar lobule 7
 Cb8 cerebellar lobule 8
 OoC occipital cortex

I Cerebral cortex (telencephalon)
 XII Cerebellum (metencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

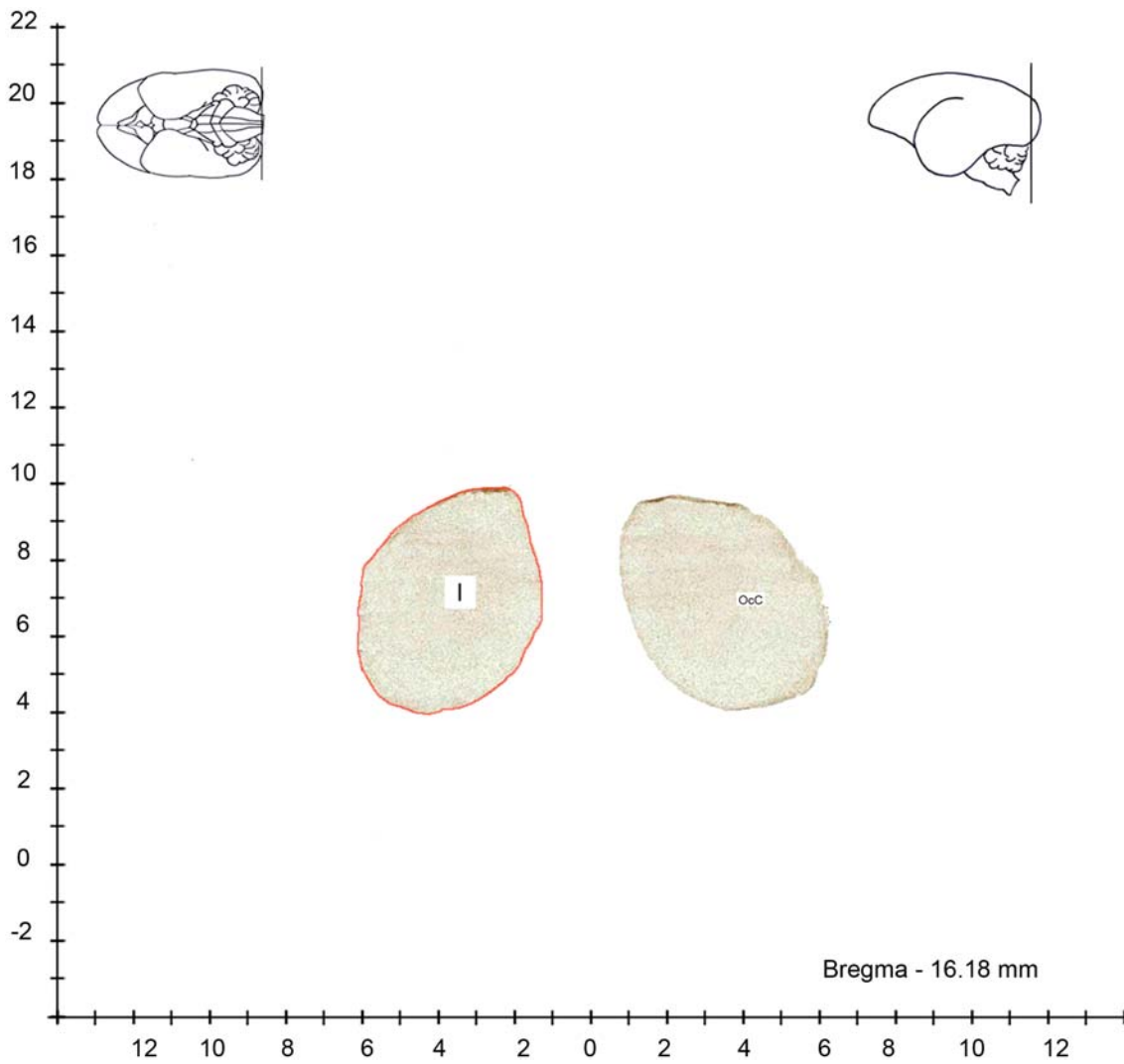


Figure 48

OoC occipital cortex

I Cerebral cortex (telencephalon)

This image is available as ESM at http://www.springer.com/dx.doi.org/10.1007/978-0-387-78385-7_1

Index

A

Abbreviations, list of, 8–11

See also Marmoset brain in stereotaxic coordinates

Abducens nucleus, 6 N, 5, 8, 42f, 43f

Accumbens nucleus, core AcbC, 5, 8, 21f, 22f, 23f, 24f

Accumbens nucleus, shell AcbSh, 5, 8, 21f, 22f, 23f, 24f

Acetyl choline esterase (AChE), 3

AChE, *see* Acetyl choline esterase (AChE)

AChE-stained slides, 3

See also Staining

AChE Staining Method, 4

See also Staining

Alveus of the hippocampus, alv, 5, 8, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f

Amygdalohippocampal area, AHi, 5, 8, 30f

Ansiform lobule of the cerebellum, ans, 5, 8, 9, 11, 49f, 50f, 51f, 52f, 53f, 54f

Anterior amygdaloid area, AA, 5, 7, 8, 24f, 25f, 26f, 30f, 31f

Anterior cingulate gyrus, ACg, 5, 8, 15f, 16f

Anterior commissure, ac, 5, 8, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f, 41f, 42f, 43f, 44f, 45f, 46f, 47f, 48f, 49f, 50f, 51f, 52f

Anterior commissure, anterior part aca, 5, 8, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f

Anterior commissure, posterior part acp, 5, 8, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f

Anterior olfactory nucleus, AO, 5, 7, 8, 10, 16f, 17f, 18f, 19f, 27f, 28f, 29f, 30f, 31f

Aqueduct, Aq, 1, 3, 5, 7, 8, 10, 11, 34f, 35f, 36f, 37f, 38f, 39f, 40f, 41f, 42f, 43f, 60

Arcuate hypothalamic nucleus, Arc, 1, 5, 8, 11, 28f, 29f, 30f, 31f

Asshewer, J., 11

Azygos anterior cerebral artery, azac, 5, 8, 20f, 21f

Azygos pericallosal artery, azp, 5, 8, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 35f, 36f

B

Baron, G., 11

Basal interstitial, BI, 1, 3, 4, 5, 7, 8, 10, 11, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f, 41f, 48f

Basal nucleus (Meynert), B, 5, 8, 25f, 26f, 27f, 28f, 29f, 30f, 31f

Basolateral amygdaloid nucleus BL, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f

Basolateral amygdaloid nucleus, dorsal part BLD, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f

Basolateral amygdaloid nucleus, dorsolateral part BLDL, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f

Basolateral amygdaloid nucleus, intermediate part BLI, 5, 6, 8, 9, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f

Basolateral amygdaloid nucleus, ventromedial part BLVM, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f

Basomedial amygdaloid nucleus, BM, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f

Basomedial amygdaloid nucleus, magnocellular part BMMC, 5, 7, 8, 10, 24f, 25f, 26f, 27f, 28f, 29f, 34f, 35f

Basomedial amygdaloid nucleus, parvicellular part BMPC, 5, 7, 8, 10, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 32f, 33f

Bed nucleus of the stria terminalis (BST), 5, 8, 25f, 26f, 27f, 28f, 30f, 31f

Bed nucleus of the stria terminalis, intraamygdaloidBSTIA, 5, 8, 25f, 26f, 27f, 28f, 30f, 31f

Bitsensky, L., 3, 11

Brachium of the inferior colliculus, bic, 5, 7, 8, 31f, 38f, 39f, 40f

Brachium of the superior colliculus, bsc, 5, 8, 37f, 38f, 39f

Brain areas (major), list of, 11

See also Marmoset brain in stereotaxic coordinates

Bregma, 1, 2, 4

See also Reference planes and stereotaxic accuracy

C

Calcarine sulcus, cal, 5, 8, 41f, 42f, 43f, 44f, 45f, 46f, 47f, 48f, 49f, 50f, 51f, 52f, 53f, 54f, 55f, 56f

Callithrix jacchus, *see* Marmoset

Carpenter, M., 11

Caudate nucleus, Cd, 5, 8, 19f, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f

Central amygdaloid nucleus, lateral division, CeL, 5, 8, 26f, 27f, 28f

Central amygdaloid nucleus, medial division CeM, 5, 8, 26f, 27f, 28f, 29f

Central canal, CC, 5, 8, 49f, 50f, 51f, 52f

Central medial thalamic nucleus, CM, 5, 8, 29f

Central nervous system (CNS), 1, 11

Central nucleus of the inferior colliculus, CIC, 5, 8, 40f, 41f, 42f, 43f

Central tegmental tract, ctg, 5, 9, 36f

Cerebellar lobule 10, Cb5, 8, 10, 46f, 47f, 48f

Cerebellar lobule 1, Cb1, 5, 8, 43f, 44f, 45f

Cerebellar lobule 2, Cb2, 5, 8, 41f, 42f, 43f, 44f, 45f

Cerebellar lobule 3, Cb3, 5, 8, 42f, 43f, 44f, 45f

Cerebellar lobule 4, Cb4, 5, 8, 44f, 45f, 46f

Cerebellar lobule 5, Cb5, 8, 44f, 45f, 46f, 47f, 48f, 49f, 50f, 51f, 52f, 53f

Cerebellar lobule 6, Cb5, 6, 8, 44f, 45f, 46f, 48f, 49f, 50f, 51f, 52f, 53f, 54f

Cerebellar lobule 7, Cb5, 7, 8, 50f, 51f, 52f, 53f, 54f, 55f, 56f, 57f, 58f

Cerebellar lobule 8, Cb5, 8, 49f, 50f, 51f, 52f, 53f, 54f, 55f, 56f, 57f, 58f

Cerebellar lobule 9, Cb5, 8, 9, 49f, 50f, 51f, 52f, 53f

Cerebral peduncle, basal part cp, 5, 9, 31f, 32f, 33f, 34f, 35f, 42f, 43f

Chayen, J., 3, 11

Choroid plexus, chp, 5, 8, 37f

Cingulate cortex, Cg, 5, 8, 15f, 16f, 17f, 18f, 19f, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f

Clastrum, Cl, 5, 8, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f
 Commissure of the inferior colliculus, cic, 5, 8, 42f
 Copula of the pyramis, Cop, 5, 9, 49f, 50f, 51f, 52f, 53f, 54f
 Corona radiata, cr, 5, 9, 18f, 19f, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f
 Corpus callosum, cc, 5, 7, 8, 10, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
 Cresyl violet histochemistry, 3
 Cresyl violet-stained slides, 3
See also Staining
 Crus 1 of the ansiform lobule, Crus1, 5, 9, 49f, 50f, 51f, 52f, 53f, 54f
 Crus 2 of the ansiform lobule, Crus2, 5, 9, 49f, 50f, 51f, 52f, 53f, 54f
 Cuneate fasciculus cu, 5, 9, 50f, 51f, 52f
 Cuneate nucleus, Cu, 5, 7, 9, 47f, 48f, 49f, 50f, 51f
 Cuneiform nucleus, CnF, 5, 8, 41f

D

Data capture, 4
 Illumea™ system, automated, 4
See also Histology
 Decussation of the superior cerebellar, 35f, 36f, 37f, 38f
 Deep mesencephalic nucleus, DpMe, 5, 9, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f
 Division BSTIA, 5, 8, 25f, 26f, 27f, 28f, 30f, 31f
 DMC, 6, 9, 29f
 Dorsal 3rd ventricle, D3V, 5, 9, 34f, 35f, 36f, 37f
 Dorsal cortex of the inferior colliculus, DCIC, 5, 9, 40f, 41f, 42f, 43f
 Dorsal endopiriform nucleus, Den, 5, 9, 25f
 Dorsal lateral geniculate nucleus, DLG, 5, 9, 32f, 33f, 34f, 35f, 36f
 Dorsal nucleus of the lateral lemniscus, DLL, 5, 9, 38f
 Dorsal paraflocculus, DPFL, 5, 9, 48f
 Dorsal raphe nucleus, DR, 5, 9, 37f, 38f, 39f
 Dorsal spinocerebellar tract, dsc, 5, 9, 49f, 51f, 52f, 59f
 Dorsal tegmental nucleus, DTg, 5, 9, 40f, 41f
 Dorsomedial hypothalamic nucleus, compact part, 6, 7, 9, 10, 29f, 30f, 37f
 Dorsomedial hypothalamic nucleus, DM, 6, 9, 29f, 30f

E

Edinger–Westphal nucleus, EW, 1, 6, 9, 11, 34f
 Eidelberg, E., 11
 Entorhinal cortex, Er, 6, 9, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f
 External capsule, ec, 6, 9, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f
 External cortex of the inferior colliculus, ECIC, 6, 9, 40f, 41f, 42f, 43f
 External cuneate nucleus, ECu, 6, 9, 47f, 48f, 49f
 External globus pallidus, EGP, 6, 9, 25f, 26f, 27f, 28f, 29f, 30f, 31f
 External medullary lamina, eml, 6, 9, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f
 Extreme capsule, ex, 6, 9, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f

F

Facial nucleus, 7 N, 6, 8, 42f, 43f, 44f
 Fasciculus retroflexus, fr, 6, 9, 34f, 35f
 Field CA1 of hippocampus, CA1, 6, 8, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
 Field CA3 of hippocampus, CA3, 6, 8, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f
 Field CA4 of hippocampus, CA4, 6, 8, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
 Fimbria of the hippocampus, fi, 6, 9, 34f, 35f, 36f, 37f, 38f, 39f
 Flocculus, Fl, 5, 6, 7, 9, 10, 11, 39f, 40f, 41f, 42f, 43f, 44f, 45f, 46f, 47f, 48f

Fornix, f, 6, 9, 28f, 29f, 30f, 31f, 32f
 Freezing, 3
See also Histology
 Frontal cortex, Fr, 6, 9, 12f, 13f, 14f, 15f, 16f, 17f, 18f, 19f, 20f, 21f, 22f, 23f

G

Genu of the facial nerve, g6, 7, 9, 42f, 43f
 Gigantocellular reticular nucleus, Gi, 6, 9, 42f, 43f, 44f, 45f, 46f, 47f
 Gracile fasciculus, gr, 6, 9, 52f
 Gracile nucleus, Gr, 6, 9, 49f, 50f, 51f, 52f
 Granular layer of the dentate gyrus GrDG, 6, 9, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f

H

Hippocampal fissure, hf, 6, 9, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
 Hippocampus, CA, 6, 28f, 29f
 Hippocampus supracommissuralis, HR, 6, 9, 41f
 Histology
 freezing, 3
 sectioning, 3
 staining, *see Staining*
See also Marmoset brain in stereotaxic coordinates
 Huang, X. F., 11
 Hypoglossal nucleus, 6, 8, 12 N, 48f

I

Illumea™ system, automated, 4
 Indusium griseum, IG, 6, 9, 25f, 26f, 27f, 28f, 29f, 30f
 Inferior cerebellar peduncle (restiform body), icp, 6, 9, 44f, 45f, 46f, 47f, 48f
 Inferior olive, IO, 6, 9, 42f, 43f, 44f, 45f, 46f, 47f
 Inferior pulvinar, IPul, 6, 9, 35f, 36f, 37f
 Infundibular stem, InfS, 6, 9, 27f
 Insularis cortex, CIn, 6, 9, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f
 Interaural line, 1, 4
See also Reference planes and stereotaxic accuracy
 Intermediate nucleus of the lateral lemniscus, ILL, 6, 9, 38f
 Internal capsule, ic, 6, 9, 20f, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f
 Internal carotid artery, ictd, 6, 9, 28f
 Internal globus pallidus, IGP, 6, 9, 28f, 29f, 30f, 31f
 Interpeduncular fossa, IPF, 6, 9, 32f
 Interpeduncular nucleus, caudal subnucleus IPC, 6, 9, 32f, 33f, 34f, 35f, 36f, 37f
 Interpeduncular nucleus, IP, 6, 9, 32f, 33f, 34f, 35f, 36f, 37f
 Interpeduncular nucleus, lateral subnucleus IPL, 6, 9, 32f, 33f, 34f, 35f, 36f, 37f
 Interpeduncular nucleus, rostral subnucleus IPR, 6, 9, 32f, 33f, 34f, 35f, 36f, 37f
 Interposed cerebellar nucleus, anterior, 6, 9, 45f, 46f, 47f, 48f, 49f
 Interposed cerebellar nucleus, Int, 6, 9, 45f, 46f, 47f, 48f, 49f
 Interposed cerebellar nucleus, posterior part IntP, 6, 9, 45f, 46f, 47f, 48f, 49f
 Isopentane cooled by dry ice, 3

K

Kawagishi, S., 11
 Kopf® stereotaxic frame, 1

L

Lacunosum moleculare layer of the hippocampus, LMol, 6, 9, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
 Lateral amygdaloid nucleus, La, 9, 24f, 25f, 26f, 27f, 28f, 29f

- Lateral corticospinal tract, lcs_p, 6, 9, 50*f*
 Lateral (dentate) cerebellar nucleus, Lat, 6, 9, 45*f*, 46*f*, 47*f*, 48*f*
 Lateral dorsal thalamic nucleus, superficial part, 6, 9, 31*f*, 32*f*, 33*f*/LDSF
 Lateral fissure, lf, 6, 9, 23*f*, 24*f*, 25*f*, 26*f*, 27*f*, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*, 33*f*, 34*f*, 35*f*, 36*f*
 Lateral geniculate artery, lga, 6, 9, 33*f*
 Lateral habenular nucleus, LHb, 6, 9, 36*f*, 37*f*
 Lateral hypothalamic area, LH, 6, 9, 28*f*, 29*f*, 30*f*, 31*f*
 Lateral lemniscus, ll, 6, 9, 38*f*, 39*f*
 Lateral mammillary nucleus, LM, 6, 9, 29*f*, 30*f*
 Lateral medullary lamina, lml, 6, 9, 26*f*, 27*f*, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*
 Lateral olfactory tract, lo, 6, 9, 16*f*, 17*f*, 18*f*, 19*f*, 20*f*, 21*f*
 Lateral parabrachial nucleus, LPB, 6, 9, 42*f*
 Lateral pulvinar, LPul, 6, 9, 35*f*, 36*f*, 37*f*, 38*f*
 Lateral reticular nucleus, LRt, 6, 9, 46*f*, 47*f*
 Lateral septal nucleus, dorsal part LSD, 6, 9, 22*f*, 23*f*, 24*f*, 25*f*, 26*f*, 27*f*
 Lateral septal nucleus, intermediate part LSI, 6, 9, 22*f*, 23*f*, 24*f*, 25*f*, 26*f*, 27*f*
 Lateral septal nucleus, ventral part LSV, 6, 9, 22*f*, 23*f*, 24*f*, 25*f*, 26*f*, 27*f*
 Lateral ventricle, LV, 6, 9, 18*f*, 19*f*, 20*f*, 21*f*, 22*f*, 23*f*, 24*f*, 25*f*, 26*f*, 27*f*, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*, 33*f*, 34*f*, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*
 Lateral vestibulospinal tract, lvsp, 6, 9, 49*f*, 50*f*, 51*f*
 Lenticular fasciculus, lenf, 6, 9, 29*f*, 30*f*, 31*f*, 32*f*
 Longitudinal fasciculus of the pons, lfp, 6, 9, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*
- M**
 Macaques, 1
 Magnocellular layer of the caudal spinal trigeminal nucleus, MC5, 6, 9, 49*f*, 50*f*, 51*f*, 52*f*
 Mai, J. K., 11
 Marmoset, 1
 Marmoset brain in stereotaxic coordinates
 abbreviations, 8–11
 brain areas (major), 11
 data capture, 4
 histology, 3–4
 nomenclature, 4
 reference planes and stereotaxic accuracy, 4
 structures, 5–8
 surgery and stereotaxic approach, 1–2
 Mazzuchelli, A. L., 11
 Medial amygdaloid nucleus, Me, 6, 9, 26*f*, 27*f*, 28*f*
 Medial eminence, external layer MEE, 6, 9, 28*f*
 Medial eminence, internal layer MEI, 6, 9, 28*f*
 Medial (fastigial) cerebellar nucleus, Med, 6, 9, 45*f*, 46*f*, 47*f*, 48*f*
 Medial geniculate nucleus, dorsal part MGD, 6, 9, 35*f*, 36*f*
 Medial geniculate nucleus, medial part MGM, 6, 10, 35*f*, 36*f*
 Medial geniculate nucleus, ventral part MGv, 6, 10, 35*f*, 36*f*
 Medial habenular nucleus, MHb, 6, 10, 36*f*, 37*f*
 Medial lemniscus, ml, 6, 10, 36*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*, 48*f*
 Medial longitudinal fasciculus, mlf, 6, 10, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*, 48*f*, 49*f*, 50*f*, 51*f*
 Medial mammillary nucleus, lateral part ML, 6, 10, 29*f*, 30*f*, 31*f*
 Medial mammillary nucleus, medial part MM, 6, 10, 29*f*, 30*f*, 31*f*
 Medial medullary lamina, mml, 6, 10, 28*f*, 29*f*, 30*f*, 31*f*
 Medial parabrachial nucleus, MPB, 6, 10, 42*f*
 Medial pulvinar, MPul, 6, 10, 35*f*, 36*f*, 37*f*, 38*f*
 Medial septal nucleus, MS, 6, 10, 22*f*, 23*f*, 24*f*, 25*f*, 26*f*
 Median raphe nucleus, MnR, 6, 10, 36*f*
 Mediodorsal thalamic nucleus, central part MDC, 6, 9, 31*f*, 32*f*, 33*f*, 34*f*
 Mediodorsal thalamic nucleus, dorsal part MDD, 6, 9, 31*f*, 32*f*, 33*f*, 34*f*
 Mediodorsal thalamic nucleus, lateral part MDL, 6, 9, 31*f*, 32*f*, 33*f*, 34*f*
 Mediodorsal thalamic nucleus, medial part MDM, 6, 9, 31*f*, 32*f*, 33*f*, 34*f*
 Middle cerebellar peduncle, mcp, 7, 9, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*, 44*f*
 Middle cerebral artery, mcer, 7, 9, 23*f*, 24*f*, 25*f*, 26*f*
 Midline, 4
 See also Reference planes and stereotaxic accuracy
 Molecular layer of the dentate gyrus, Mol, 7, 9, 31*f*, 32*f*, 33*f*, 34*f*, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*
 Motor and premotor cortex, MPr, 7, 10, 24*f*, 25*f*, 26*f*, 27*f*, 28*f*, 29*f*, 30*f*
 Motor trigeminal nucleus, Mo5, 7, 10, 40*f*, 41*f*
- N**
 Nomenclature, 5
 See also Marmoset brain in stereotaxic coordinates
 Non-human primates, 1
 Nucleus of the brachium of the inferior colliculus, BIC, 7, 8, 40*f*
 Nucleus of the horizontal limb of the diagonal band, HDB, 7, 9, 22*f*, 23*f*, 24*f*, 25*f*
 Nucleus of the vertical limb of the diagonal band, VDB, 7, 10, 22*f*, 23*f*, 24*f*
- O**
 Occipital cortex, OcC, 7, 10, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*, 48*f*, 49*f*, 51*f*, 52*f*, 53*f*, 54*f*, 55*f*, 56*f*, 57*f*, 58*f*
 Occipitotemporal sulcus, ots, 7, 10, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*
 OCT CompoundTM, 3
 Oculomotor nerve or its root, 3 n, 7, 8, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*
 Olivary nuclei, On, 7, 10, 41*f*
 Olivocerebellar tract, oc7, 10, 44*f*, 45*f*, 46*f*
 Optic chiasm, ox, 7, 10, 25*f*, 26*f*
 Optic nerve, 2 n, 7, 8, 24*f*
 Optic tract, opt, 7, 10, 27*f*, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*, 33*f*
- P**
 Parabrachial nucleus, PBG, 7, 10, 38*f*, 39*f*, 40*f*
 Paracollicular tegmentum, PCTg, 7, 10, 42*f*
 Paralambdoid septal nucleus, PLd, 7, 10, 25*f*
 Paramedian lobule, PM, 7, 10, 52*f*, 55*f*
 Paramedian raphe nucleus, PMnR, 7, 10, 36*f*
 Paramedian reticular nucleus, PMn, 7, 10, 41*f*
 Parasubiculum, PaS, 7, 10, 30*f*, 31*f*, 32*f*, 33*f*, 34*f*, 35*f*, 36*f*
 Paraventricular hypothalamic nucleus, parvicellular part PaP, 7, 10, 27*f*, 28*f*, 29*f*, 30*f*
 Paraventricular thalamic nucleus, PV, 7, 10, 31*f*, 33*f*, 34*f*
 Parietal cortex, PaC, 7, 10, 24*f*, 25*f*, 26*f*, 27*f*, 28*f*, 29*f*, 30*f*, 31*f*, 32*f*, 33*f*, 34*f*, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*, 48*f*
 Part IntA, 6, 9, 47*f*, 48*f*
 Parvicellular reticular nucleus, PCRT, 7, 10, 41*f*
 Paxinos, G., 5, 8
 Peduncle, xscp, 5, 6, 7, 9, 10, 11, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*, 44*f*, 45*f*, 46*f*, 47*f*, 48*f*
 Pedunculopontine tegmental nucleus, compact part PPTgC, 7, 10, 37*f*
 Pedunculopontine tegmental nucleus, diffuse part PPTgD, 7, 10, 37*f*
 Periaqueducal gray, PAG, 7, 10, 35*f*, 36*f*, 37*f*, 38*f*, 39*f*, 40*f*, 41*f*, 42*f*, 43*f*
 Peripeduncular nucleus, PP, 7, 10, 33*f*
 Pfizer Amboise Ethical Committee, 1
 Pineal gland, Pi, 7, 10, 38*f*, 39*f*

- Polymorph layer of the dentate gyrus, PoDG, 7, 10, 36f, 37f, 38f, 39f, 40f
- Pontine nuclei, Pn, 7, 10, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
- Pontine reticular nucleus, oral part PnO, 7, 10, 37f, 38f, 39f, 40f, 41f
- Posterior cerebral artery, pcer, 7, 10, 31f, 32f, 36f, 37f, 38f, 39f
- Posterior commissure, pc, 1, 7, 10, 34f
- Posterior hypothalamic area, PH, 7, 10, 29f, 30f, 31f, 32f, 33f
- Posterior paraflocculus, PPF1, 7, 10, 44f, 45f, 46f, 47f, 48f
- Prepositus nucleus, Pr, 7, 10, 43f, 44f, 45f
- Presubiculum, PrS, 7, 10, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
- Prosubiculum, ProS, 7, 10, 30f, 31f
- Pulvinar nuclei, Pul, 7, 10, 39f
- Putamen, Pu, 7, 10, 21f, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f
- Pyramidal cell layer of the hippocampus, Py, 7, 10, 30f
- Pyramidal decussation, pyx, 7, 10, 49f, 50f, 51f, 52f
- Pyramidal tract, py, 7, 10, 41f, 42f, 43f, 44f, 45f, 46f, 47f, 48f, 49f
- R**
- Recess of the inferior colliculus, ReIC, 7, 10, 41f
- Red nucleus, magnocellular part RMC, 7, 10, 34f, 35f
- Red nucleus, parvocellular part RPC, 7, 10, 32f, 33f
- Reference planes and stereotaxic accuracy, 5
See also Marmoset brain in stereotaxic coordinates
- Reticular thalamic nucleus, Rt, 7, 10, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f
- Reticulotegmental nucleus of the pons, RtTg, 7, 10, 36f, 37f, 38f
- Reuniens thalamic nucleus, Re, 7, 10, 30f
- Rostrum of the corpus callosum, rcc, 7, 10, 20f, 21f
- S**
- Saavedra, J. P., 11
- Sagulum nucleus, Sag, 7, 10, 41f
- Saldias, C. A., 11
- Schwerdtfeger, W. K., 11
- Sectioning, 3
See also Histology
- Septofimbrial nucleus, SFi, 7, 10, 26f, 27f, 28f, 29f
- Septohippocampal nucleus, Shi, 7, 10, 22f, 23f, 24f, 25f, 26f, 27f, 28f, 29f
- Simple lobule, Sim, 7, 10, 47f
- Skull of marmoset positioned in stereotaxic frame, 2
- Sodium pentobarbitone, 1
- Solitary nucleus, Sol, 7, 10, 47f, 48f
- Solutions, 4
See also Staining
- Spinal trigeminal nucleus, Sp5, 7, 10, 42f, 43f, 44f, 45f, 46f, 47f
- Spinal trigeminal tract, p5, 7
- Spinohthalamic tract, sph, 7, 10, 47f, 48f, 49f, 50f, 51f, 52f
- Staining
AChE-stained slides, 3
AChE staining method, 4
cresyl violet-stained slides, 3
solutions, 4
substrate solution, 4
See also Histology
- Stephan, H., 11
- Stereotaxic accuracy and reference planes, 5
- Stereotaxic system, three-dimensional, 4
- Stratum lucidum of the hippocampus, Lu, 7, 9, 30f
- Stria medullaris of the thalamus, sm, 7, 10, 30f, 31f
- Stria terminalis, st, 7, 10, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f
- Structures, list of, 5–7
See also Marmoset brain in stereotaxic coordinates
- Subcommissural organ, SCO, 7, 10, 37f
- Subfornical organ, SFO, 7, 10, 29f
- Subiculum, S, 7, 10, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f
- Substantia nigra, SN, 7, 10, 32f, 33f, 34f, 35f, 36f
- Substrate solution, 4
See also Staining
- Subthalamic nucleus, STh, 7, 10, 32f
- Superior cerebellar peduncle (brachiumconjunctivum), scp, 5, 7, 10, 11, 35f, 36f, 37f, 38f, 39f, 40f, 41f, 42f, 43f
- Superior colliculus, SC, 7, 10, 37f, 38f, 39f, 40f, 41f
- Superior medullary velum, SMV, 7, 10, 43f, 44f
- Supragenual nucleus, SGe, 7, 10, 42f
- Supramammillary nucleus, SuM, 7, 10, 30f
- Supraoptic decussation, sox, 7, 10, 27f, 28f, 29f, 30f, 31f
- Supraoptic nucleus, retrochiasmatic part SORT, 7, 10, 27f, 28f
- Surgery, stereotaxic approach, 1–2, 12
study protocol, 1
See also Marmoset brain in stereotaxic coordinates
- T**
- Tectospinal tract, ts, 7, 10, 46f
- Temporal cortex, TE, 7, 10, 23f, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 31f, 32f, 33f, 34f, 35f, 36f, 37f, 38f, 39f, 40f, 41f
- Toxicology, 1
- V**
- Ventral anterior cortical nucleus of the amygdale, VACo, 7, 10
- Ventral anterior thalamic nucleus, lateral part VAL, 7, 10, 30f, 31f
- Ventral anterior thalamic nucleus, medial part VAM, 7, 10, 30f
- Ventral cochlear nucleus, anterior part VCA, 7, 10, 42f, 43f
- Ventral cochlear nucleus, posterior part VCP, 7, 10, 44f, 45f
- Ventral cortical amygdaloid nucleus, VCo, 7, 10, 27f, 28f
- Ventral division BMPCV, 5, 7, 8, 10, 24f, 25f, 26f, 27f, 28f, 29f, 30f, 32f, 33f
- Ventral hippocampal commissure, vhc, 7, 10, 39f, 40f
- Ventral horn, VH, 7, 10, 49f, 50f, 51f, 52f
- Ventral lateral geniculate nucleus, VLG, 7, 10, 32f
- Ventral lateral thalamic nucleus, lateral part VLL, 7, 11, 30f, 31f, 32f
- Ventral lateral thalamic nucleus, medial part VLM, 7, 11, 31f, 32f
- Ventral nucleus of the lateral lemniscus, VIL, 8, 11, 38f
- Ventral pallidum, VP, 8, 11, 25f, 26f, 27f
- Ventral paraflocculus, VPFL, 8, 11, 39f, 40f, 41f, 42f, 43f
- Ventral posterolateral thalamic nucleus, VPL, 8, 11, 33f, 34f
- Ventral posteromedial thalamic nucleus, VPM, 8, 11, 33f, 34f
- Ventral spinocerebellar tract, vsc, 8, 11, 30f, 40f, 51f, 52f
- Ventral tegmental area, VTA, 8, 11, 32f, 33f, 34f, 35f, 36f
- Ventromedial hypothalamic nucleus, VMH, 8, 11, 29f
- Vestibular nuclei, VeN, 8, 10, 42f, 43f, 44f, 45f, 46f, 47f, 48f
- Z**
- Zona incerta, ZI, 8, 11, 32f
- Zonal layer of the superior colliculus, Zo, 8, 11, 43f