



Smithsonian Institution  
*Libraries*



Alexander Wetmore  
1946 *Sixth Secretary* 1953





20.

Mr E Lyton

RB case  
(z-7)

Alex Wetmore









calif

# OSTEOLOGIA AVIUM;

OR,

## A SKETCH OF THE OSTEOLOGY OF BIRDS.

BY

Thomas Campbell

T. C. EYTON, ESQ., F.G.S., F.L.S.,

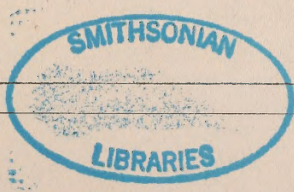
*And Corresponding Member of Institute of Philadelphia.*

==  
PLATES.  
==

TO BE HAD OF MR. PRINCE, AT MR. J. GOULD'S, CHARLOTTE STREET,  
BEDFORD SQUARE, LONDON.

PUBLISHED BY R. HOBSON, WELLINGTON, SALOP.

1867.



OSTEOLOGIA ANATOMICA

A TREATISE ON THE OSTEOLOGY  
OF THE

HUMAN

SKULL

BY J. H. R. KELLOGG, M.D., F.R.C.S.

NEW YORK: G. B. PUTNAM'S SONS, 1891.



# OSTEOLOGIA AVIUM.

## LIST OF PLATES.

No. of Plate.

Introduction

Int. 1. Pandion leucocephalus

2. Struthio camelus

Fig. 1. *Upper part of cranium*

— 2. *Lower maxillary bone*

— 3. *Basal view of cranium*

Int. 3. Fig. 1. Struthio camelus. *Side view of cranium*

2. ————— *Side view of lower maxillary bone*

3. Numida cristata. *Sternum of the young of*

4. Turdus musicus. *Pelvis of the young of*

5. ————— *Sternum of ditto*

Int. 4. Fig. 1. Casuarius emeu. *Basal view of the cranium*

2. Podargus humeralis, *ditto*

3. Falco peregrinus, *ditto*

### SKELETONS.

1 A. Sarcorampus gryphus

2 A. Serpentarius reptilivorus

3 A. Falco peregrinus

4 A. Ketupa javanensis

1 A. bis. fig. 1. *Skeleton of Trochilus gigas*

2. *Palatine bones of ditto*

3. *Pelvis*

4. *Metatarsi*

5. *Details of Petasphora jolata*

2 A. bis. *Skeleton of Cypselus apus, and details*

1 B. Podargus humeralis

2 B. Coracias indica

3 B. Eurystomus orientalis

4 B. Trogon melanocephalus

5 B. fig. 1. Todus viridis

2. Alcedo ispida

No. of Plate.

6 B. Bucerus Abyssinicus

7 B. Capito Swainsonii

8 B. Eurylamius sumatranus

1 C. Chrysotis Braziliensis

1 D. Gecinus dimideatus

1 E. Centropus phasianus

2 E. Turacus gigas

3 E. Pteroglossus Baillonii

4 E. Cuculus glandarius

5 E. Geococcyx Mexicanus

1 F. Xiphorhynchus trochilirostris

2 F. Anthochaera Lewinii

3 F. Menura Lyra

5 F. fig. 1. Sylvia Hippolais

2. Parula Braziliana

6 F. fig. 1. Tehitrea Melanopyga

2. Tytyra inquisitor

7 F. Turdus choki

8 F. fig. 1. Platyrhynchus canchromus

2. Hirundo riparia

9 F. Neomorpha Gouldii

10 F. Cassicus bifasciatus

11 F. fig. 1. Drymophila loricata

2. Lanius collurio

12 F. fig. 1. Saltator magnus

2. Spermophaga hæmatina

13 F. Cypsirhina leucoptera

1 G. Goura coronata

1 H. Tetrao urogallus

2 H. Crax globocera

3 H. Phasianus Nycthemerus

4 H. Oreophasis Derbrianus

1 I. Struthio camelus

1 J. Otis houbara

1 K. Leptophilus argala

2 K. Scops virgo

3 K. Cariama cristata

4 K. Phœnicopterus ruber

No. of Plate.

- 5 K. *Psophia viridis*  
 6 K. *Threskiornis melanocephala*  
 7 K. *Harpiprion Hagebach*  
 8 K. *Totanus glottis*  
 9 K. *Scolopax rusticola*  
 10 K. *Limosa rufa*  
 11 K. *Hæmatopus capensis*  
 12 K. *Helias phalænoides*  
 13 K. *Glaucola pratincola*  
 14 K. *Aramus scolopaceus*  
 15 K. *Cedrenemus longirostris*  
 1 L. *Colymbus septentrionalis*  
 2 L. *Podiceps cristatus*  
 3 L. *Uria troile*  
 4 L. *Eudyptes*  
 5 L. *Graculus cristatus*  
 6 L. *Sula bassana*  
 7 L. *Onocrotalus*  
 8 L. *Procellaria gigantea*  
 9 L. *Diomedea exulans*  
 10 L. *Thalassidroma pelagica*  
 11 L. *Chroicocephalus ridibundus*  
 12 L. *Rhynchops nigra*

DETAILS.

- Pl. 1, fig. 1. *Sternum of* *Aquila chrysaetos*  
 2. ———— *Cathartes aura*  
 3. ———— *Neophron percnopterus*  
 4. ———— *Sarcoramphus gryphus*  
 5. ———— *Gyps fulvus*  
 6. ———— *Vultur cinereus*  
 7. ———— *Serpentarius reptilivorus*  
 8. ———— *Cathartes niger*  
 9. ———— *Polyborus tharus*  
 10. ———— *Gypaetos barbatus*  
 Pl. 2, fig. 1. *Metatarsi of* *Pandion leucocephalus*  
 2. ———— *Aquila cinereus*  
 3. ———— *Falco peregrinus*  
 4. ———— *Circus cyaneus*

No. of Plate.

- Pl. 2, fig. 5. *Metatarsi of* *Spizaetos cristatus*  
 6. ———— *Sarcoramphus papa*  
 7. ———— *Nyctea nivea*  
 8. ———— *Noctua Tengmalmi*  
 9. ———— *Serpentarius reptilivorus*  
 10. ———— *Strix delectatulus*  
 Pl. 3, fig. 1. *Sternum of* *Falco gyrfalco*  
 2. ———— *Pandion leucocephalus*  
 3. ———— *Iracidea berigora*  
 4. ———— *Circus cyaneus*  
 5. ———— *Ibycter ater*  
 6. ———— *Accipiter nisus*  
 7. ———— *Milvus migrans*  
 8. ———— *Cymindis unicinctus*  
 9. ———— *Hierax Bengalensis*  
 10. ———— *Pandion haliaetus*  
 11. ———— *Circaetus Brachydactilus*  
 12. ———— *Spizaetos cirrhatus*  
 13. ———— *Heliastur Ponticerianus*  
 14. ———— *Aquila nævia*  
 Pl. 4, fig. 1. ———— *Strix delicatulus*  
 2. ———— *Nyctea nivea*  
 3. ———— *Ketupa javanensis*  
 4. ———— *Ephialtes grammicus*  
 5. ———— *Strix praticola*  
 6. ———— *Nyctale Tengmalmi*  
 7. ———— *Asio brachyotus*  
 8. ———— *Noctua (from Jamaica)*  
 9. ———— *Bubo Bengalensis*  
 10. ———— *Strix flammea*  
 Pl. 5, fig. 1. *Pelvis of* *Sarcoramphus gryphus*  
 2. ———— *Aquila cinereus*  
 3. ———— *Nyctea nivea*  
 4. ———— *Falco peregrinus*  
 5. ———— *Pandion haliaetus*

No. of Plate.

- Pl. 6, fig. 1. *Palatine bones* of *Sarcoramphus gryphus*
2. Ditto *Serpentarius reptilivorus*
  3. Ditto *Neophron perenopterus*
  4. Ditto *Polyborus tharus*
  5. Ditto *Falco peregrinus*
  6. Ditto *Aquila chrysaetos*
  7. Ditto *Circaetus brachydactylus*
  8. Ditto *Spizaetos cristatus*
  9. Ditto *Hiracidea Berigora*
  10. Ditto *Nyctea nivea*
  11. Ditto *Strix delicatulus*
  12. Ditto *Asio brachyotus*
- Pl. 7, fig. 1. *Coracoid, sternum, and furculum* of *Sarcoramphus gryphus*
2. Ditto *Falco peregrinus*
  3. *Nyctea nivea*
- Pl. 8, fig. 1. *Sternum* of *Podargus humeralis*
2. ————— *Harpactes Reinwartii*
  3. ————— *Megalaima corvina*
  4. ————— *Chelonidera tenebrosa*
  5. ————— *Eurylaimus sumatranus*
  6. ————— *Eurystomus orientalis*
  7. ————— *Alcedo ispida*
  8. ————— *Merops bicolor*
  9. ————— *Todus viridis*
  10. ————— *Coracias garrula*
  11. ————— *Upupa epops*
  12. *Buceros Abyssinicus*
- Pl. 9, fig. 1. *Pelvis, coracoids, furculum, and metatarsi* of *Podargus humeralis*
2. Ditto *Dacelo Leachii*
  3. Ditto *Pezoporus formosus*
- Pl. 10, fig. 1. *Sternum, coracoids, furculum, petris, and metatarsi* of *Psittacus erythacus*
2. Ditto *Calyptorhynchus Bau-dinii*
  3. Ditto *Pezoporus formosus*

No. of Plate.

- Pl. 11, fig. 1. *Base of cranium and section of* *Psittacus erythacus*
2. *Metatarsi, furculum, coracoid, pelvis, palatine bones, and sternum* of *Gecinus viridis*
- Pl. 12, fig. 1. *Palatine bones* of *Podargus humeralis*
2. Ditto *Harpactes Reinwartii*
  3. Ditto *Megalaima virens*
  4. Ditto *Chelonidera tenebrosa*
  5. Ditto *Eurylaimus sumatranus*
  6. Ditto *Dacelo gigantea*
  7. Ditto *Merops bicolor*
  8. Ditto *Todus viridis*
  9. Ditto *Coracias garrula*
  10. Ditto *Upupa epops*
  11. Ditto *Buceros Panini*
  12. Ditto *Momotus Braziliensis*
- Pl. 13, fig. 1. *Palatine bones, sternum, metatarsi, and pelvis* of *Centropus phasianus*
2. Ditto *Turacus gigas*
  3. Ditto *Pteroglossus Baillonii*
- Pl. 14, fig. 1. *Pelvis, sternum, metatarsi, and palatine bones* of *Menura superba*
2. *Pterotochus albicollis*
- Pl. 15, fig. 1. *Palatine bones, pelvis, sternum, and metatarsi* of *Tropidorhynchus argenticeps*
2. Ditto *Troglodytes furva*
  3. Ditto ————— *vulgaris*
  4. Ditto *Hirundo riparia*
  5. Ditto *Nectarina javanica*
- Pl. 16, fig. 1. *Sternum, upper surface of cranium, pelvis, and metatarsi* of *Tytyra inquisitor*
2. Ditto *Petricola aurantia*
  3. Ditto *Tchitrea melanopyga*
- Pl. 17, fig. 1. *Palatine bones, sternum, pelvis, and metatarsi* of *Alanda alpestris*

## No. of Plate.

- Pl. 17, fig. 2. *Palatine bones, sternum, pelvis, and metatarsi of Parus cæruleus*  
 3. Ditto *Malurus cyaneus*  
 4. Ditto *Philomela vulgaris*
- Pl. 17, bis, fig. 1. *Palatine bones, sternum, pelvis, and metatarsi of Cassicus bifasciatus*  
 2. Ditto *Neomorpha Gouldii*
- Pl. 18, fig. 1. *Palatine bones, sternum, and pelvis of Scolephagus major*  
 2. Ditto *Cyclarius guanensis*  
 3. Ditto *Cephalopterus penduliger*
- Pl. 19, fig. 1. *Palatine bones, sternum, pelvis, and metatarsi of Saltator magnus*  
 2. Ditto *Cypsiurhina leucopterus*  
 3. Ditto *Fregilus graculus*
- Pl. 20, fig. 1. *Sternum, pelvis, palatine bones, and metatarsi of Goura coronata*  
 2. Ditto *Columba magnifica*
- Pl. 21, fig. 1. Ditto *Phalacroteron nudirostris*  
 2. Ditto *Ptilinopus cinctus*  
 3. Ditto *Altagis Gayii*
- Pl. 22, fig. 1. Ditto *Lophortyx Californicus*  
 2. Ditto *Crax globicera*
- Pl. 23. *Sternum, pelvis, and metatarsi of Struthio camelus*
- Pl. 24. *Pelvis, sternum, metatarsi, and palatine bones of Casuarius emeu*
- Pl. 25. *Lower surface of cranium, upper surface and side rim of pelvis, sternum, and metatarsi of Apteryx Australis*
- Pl. 26, fig. 1. *Palatine bones, sternum, pelvis, and metatarsi of Otis houbara*  
 2. Ditto *Tinamus Braziliensis*

## No. of Plate.

- Pl. 27, fig. 1. *Palatine bones, sternum, pelvis, and metatarsi of Threskiornis melanocephalus*  
 2. Ditto *Psophia viridis*  
 3. Ditto *Aramus scolopaceus*
- Pl. 28. Ditto *Oreophasis Derbianus*
- Pl. 29, fig. 1. Ditto *Cariama cristata*  
 2. Ditto *Phænicopterus rubra*
- Pl. 29, fig. 1. Ditto *Psophia viridis*  
 2. Ditto *Scops balearica*
- Pl. 30, fig. 1. Ditto *Leptophilus argala*  
 2. Ditto *Platylea leucorodia*
- Pl. 31, fig. 1. Ditto *Scops virgo*  
 2. Ditto *Ciconia alba*
- Pl. 32, fig. 1. Ditto *Tinamus Braziliensis* (figured by mistake, see Pl. 26)  
 2. Ditto *Crax mitu*
- Pl. 33, fig. 1. Ditto *Tantalus Ibis*  
 2. Ditto *Threskiornis melanocephalus* (nat. size)
- Pl. 34, fig. 1. Ditto *Totanus glottis*  
 2. Ditto *Harpiprion Hagebach*
- Pl. 35, fig. 1. Ditto *Scolopax rusticola*  
 2. Ditto *Glareola pratincola*
- Pl. 35, bis, 1. Ditto *Limosa rufa*  
 2. Ditto *Helias phalænoides*
- Pl. 36, fig. 1. Ditto *Rhyncops nigra*  
 2. Ditto *Chroicocephalus ridibundus*
- Pl. 37, fig. 1. Ditto *Diomedea exulans*  
 2. Ditto *Procellaria gigantea*
- Pl. 38, fig. 1. Ditto *Eudyptes* ———  
 2. Ditto *Onocrotalus NewHolland*
- Pl. 39, fig. 1. Ditto *Thalassidroma pelagica*  
 2. Ditto *Uria troile*
- Pl. 40, fig. 1. Ditto *Podiceps cristatus*  
 2. Ditto *Colymbus septentrionalis*
- Pl. 41, fig. 1. Ditto *Graculus cristatus*  
 2. Ditto *Sula bassana*



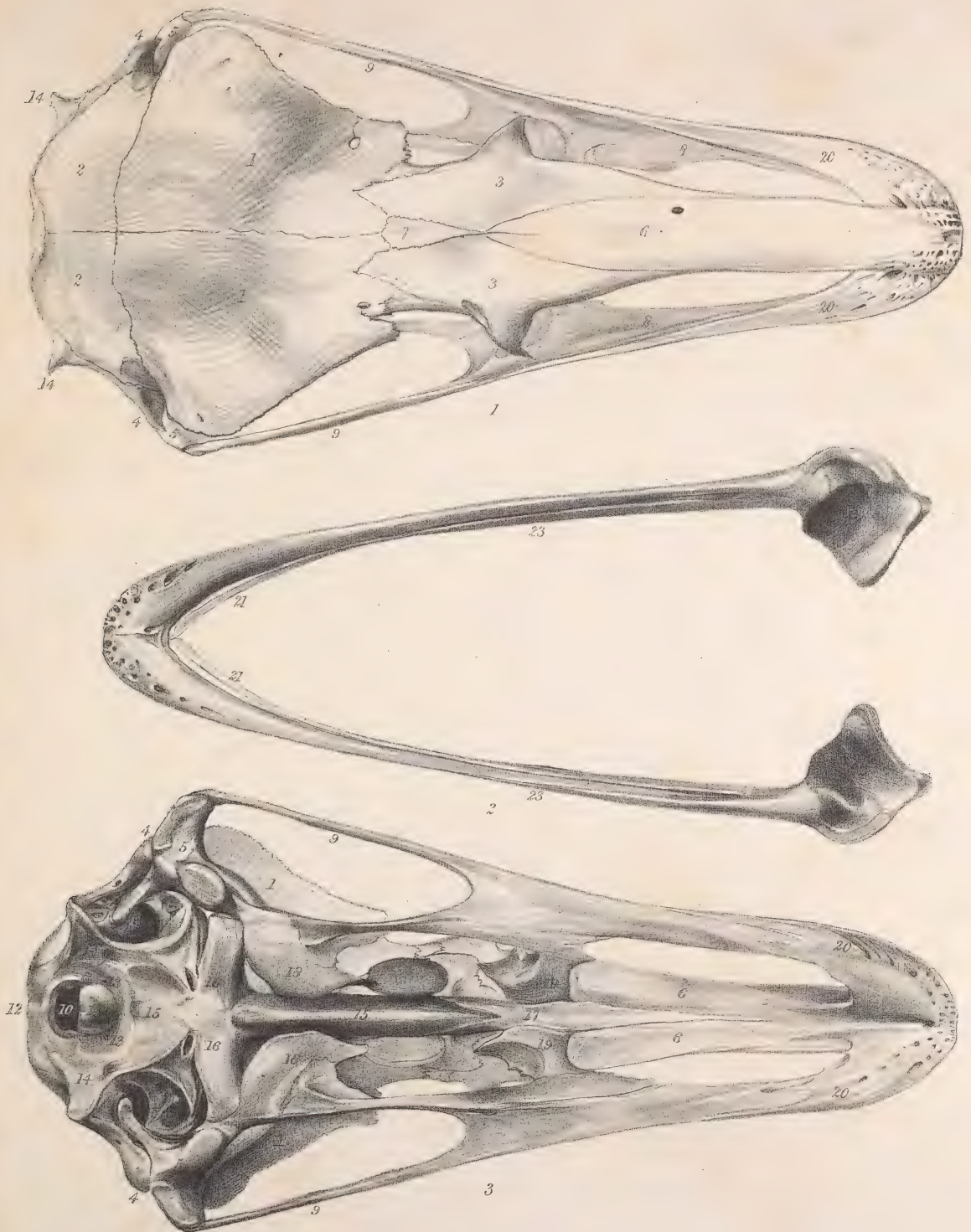
From Nature as Recd by Englehorn

Dez & Sim. Litho to the Queen.

PANDION LEUCOCEPHALUS.







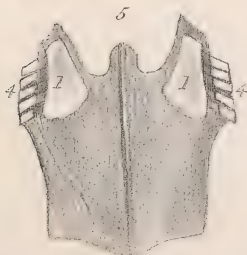
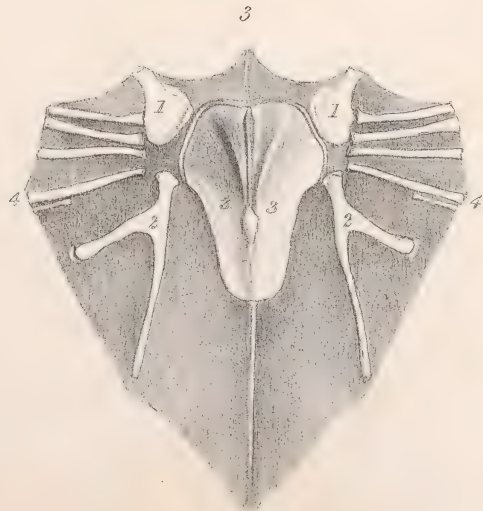
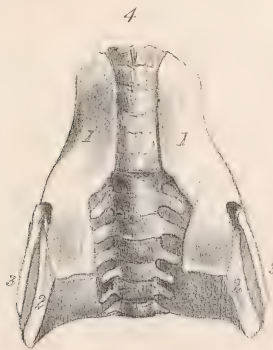
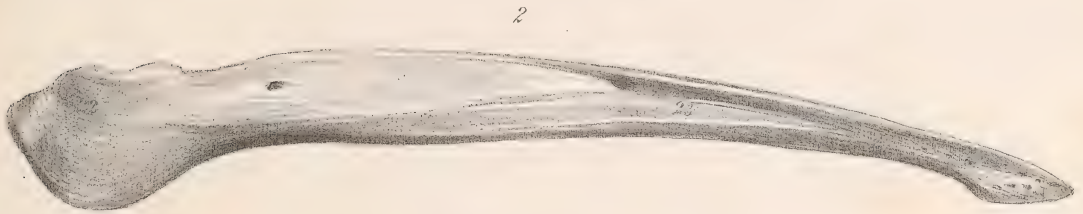
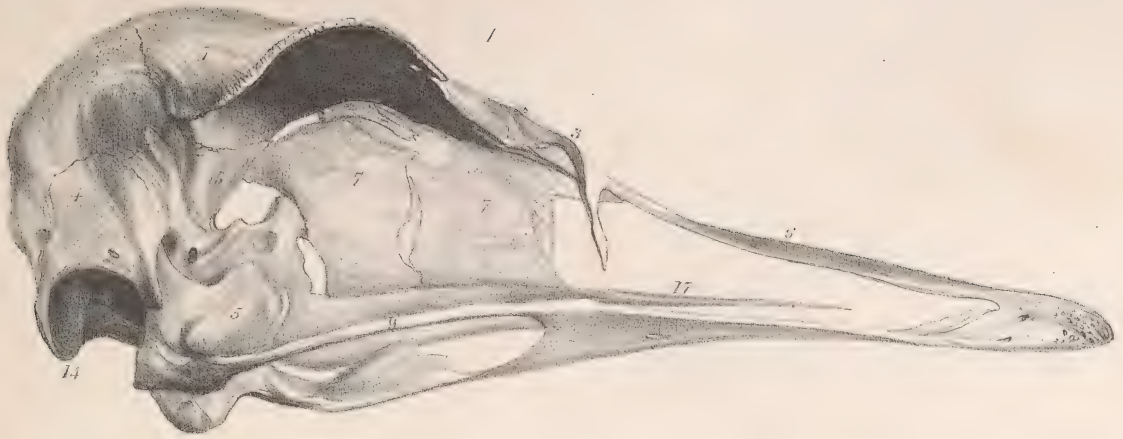
STRUTHIO CAMELUS.

Day & Son, Lith<sup>rs</sup> to the Queen

Fig. 1. Upper part of Cranium.  
 " 2. Lower Maxillary bone.  
 " 3. Basal view of Cranium.

From Nature on Zinc by J. Erxleben





Twice Nat. size.

Twice Nat. size.

Fig. 1. *Struthio Camelus*, side view of Cranium.  
 " 2. " " side view of Lower Maxillary Bone.  
 " 3. Sternum of young Guinea Fowl (*Numida Cristata*)  
 " 4. *Turdus Mustelus*, Sternum (young)  
 " 5. " " Sternum "





1. *Casuarus Emeu.*  
2. *Podargus Humeralis.*  
3. *Falco Peregrinus.*





*From Nature on Zinc by J.E. de Selys-Longchamps.*

SARCORAMPHUS GRYPHUS.

*Drawn & Engraved by J.E. de Selys-Longchamps.*







*From Nature on Zinc by J. Erxleben.*

*Day & Son Litho to the Queen.*

SERPENTARIUS REPTILIVORUS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith. to The Queen.*

FALCO PEREGRINUS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith<sup>rs</sup> to The Queen.*

KETUPA JAVANENSIS .





From *Nature on Zinc* by J. Erxleben.

Day & Son, Lith<sup>rs</sup> to the Queen.

Figs. 1. 2. 3. 4. *Trochilus Gigas*. — Fig. 5. *Petasphora Jolatu*.







From Nature on Stone by J. Eschscholtz.

Day & Son, Lith<sup>rs</sup> to the Queen.

CYPSELUS APUS.





*From Nature on Zinc by J. E. Richardson.*

*Dissection by J. P. S. de Quoy.*

PODARGUS HUMERALIS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Litho to the Queen.*

CORACIAS INDICA.





EURYSTOMUS ORIENTALIS.







TROGON MELANOCEPHALUS.





Fig. 1. *Toxus Viridis*. — Fig. 2. *Alcedo Ispida*.





From Nature on Zinc by J. Exellon.

Day & Son, Lith<sup>rs</sup> to the Queen.

BUCEROS ABYSSINICUS.





*From Nature on Zinc by J. E. H. S. P.*

*Drawn & Engraved by J. E. H. S. P.*

CAPITO SWAINSONII.







*From Nature on Zinc by J. Erxleben.*

*Drawn by G. S. Litch for the Queen.*

EURLAIMUS SUMATRANUS.





*From Nature, on Zinc by J. Brachet.*

*David Cox. Lith. by the Green.*

CHRYSOTIS BRAZILIENSIS.





*From Nature on Zinc by J. Erazébon.*

*Dep. & Son, Litho<sup>rs</sup> to the Queen.*

GEVINUS DIMIDIATUS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith. to the Queen.*

CENTROPUS PHASIANUS.







*From Nature on Ence by J. Brachet.*

*Day & Son, Litho to the Queen.*

TURACUS GIGAS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son Lith<sup>rs</sup> to the Queen.*

PTEROGLOSSUS BAILLONII.





*From Nature on Zinc by J. Ströben.*

*Day & Son, Lith<sup>rs</sup> to the orders.*

CUCULUS GLANDARIUS.











*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith<sup>rs</sup> to the Queen.*

ZIPHOREYNCHUS TROCHILIROSTRIS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith'rs to the Queen.*

AMTHOCHERA LEWINII.









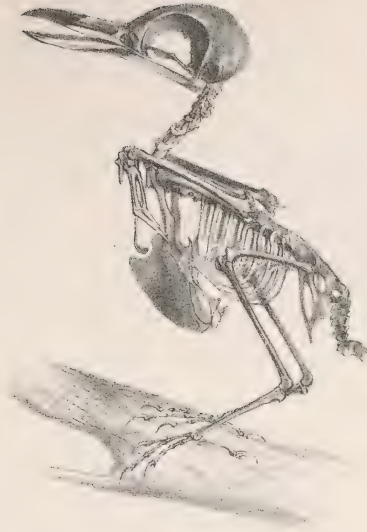
*From Nature on Zinc by J. Erxleben*

*Day & Son, 1, nth St. to The Queen.*

1. SYLVIA HIPPOLAIS\_2. PARULA BRAZILIANA.







2



*From Nature on Zinc by J. Erxleben.*

*Dey & Son Lith<sup>rs</sup> to Th. Queen.*

1. TCHITREA MELANOPYGA. — 2. TYTYRA INQUISITOR.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith<sup>rs</sup> to The Queen.*

TURDUS CHOKI.





*From Nature on Zinc by J. Erxleben.*

*Day & Son Litho to the Queen.*

1. PLATYRHYNCHUS CANCROMUS. — 2. HIRUNDO RIPARIA.





*From Nature on Zinc by J. Enderbon*

*Day & Son, Lith<sup>rs</sup> to The Queen.*







*From Nature on Zinc by J. Erxleben.*

*Day & Son Lith<sup>rs</sup> to The Queen*

CASSICUS BIFASCIATUS .





*From Nature on Zinc by J. E. Holden.*

*Day & Son, Lith<sup>r</sup> to the Queen.*

1. DRYMOPHILA LORICATA. 2. LANIUS COLLURIO.





*From Nature et Alce by J. Erckelen*

*Derb. Sm. Indit? to the Queen*

1. SALTATOR MAGNUS. 2. SPERMOPHAGA HÆMATINA.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Litho to the Queen.*

CYPSIRRHINA LEUCOPTERA.







*From Nature on Line by J. E. H. S. S.*

*Day & Son, Lith. to the Queen*

GOURA CORONATA.





*From Nature on Zinc by J. Erxleben*

*Drawn by Sam. J. Smith for the Queen.*

TETRAO UROGALLUS.





*From Nature on Zinc by J. Erxleben*

*Deij & Son, Litho to the Queen.*

CRANUS GLOBICERA.





*From Nature on Zinc by J. Exley del.*

*Drawn & Engraved by W. P. Wood to the Queen.*

PHASIANUS NYCTHEMERUS.







*From Nature on Zinc by J. Erxleben.*

*Day & Sayer, Lith.<sup>rs</sup> to the Queen.*

OREOPHYSIS DERBYANUS.





*From Nature in Zinc by J. Erxleben.*

*Day & Son, Lith'rs to the Queen.*

STRUTHIO CAMELUS



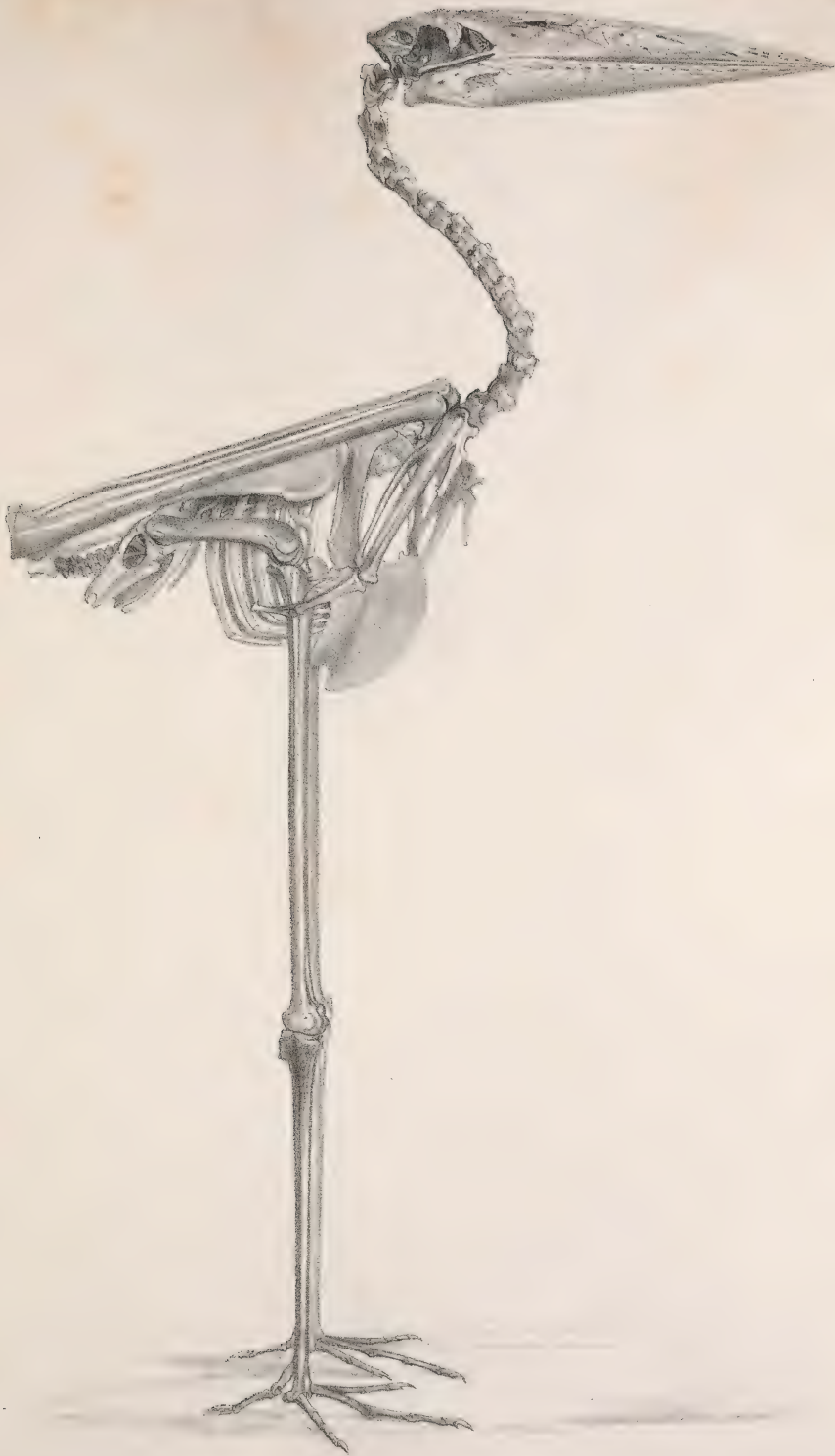


*From Nature on Zinc by J. Erxleben*

*Day & Son, Lith<sup>rs</sup> to the Queen*

OTIS HOUBARA.





*From Nature on Zinc by L. Erxleben*

*Day & Son, Lith'rs to the Queen*

LEPTOPHILUS ARGATA.







*From Nature on Zinc by J. Exley.*

*Drawn & Engraved by W. B. Woodcut.*

SCOPS VIRGO.





*From Nature en Zinc by J. Eschsch.*

*Day & Son, Litho to the Queen*

CARJAMA CRISTATA





*From Nature on Zinc by J. E. Leiden.*

*Drawn & Engraved by Day & Sons, Litho to the Queen.*

PHCENICOPTERUS RUBER.





*From Nature on Zinc by J. Erxleben*

*Day & Son, Lith. to the press*

PSOPHIA VIRIDIS.







*From Nature on Zinc by J. Erxleben.*

*Buy & Sell Lib<sup>ry</sup> to the Queen*

TRESKIONIS MELANOCEPHALA.





*From Nature on Zinc by J. Exaltor*

*Drawn & Engraved to the Queen*

HARPIPRION HAGEDACCH.





*From Nature on Zinc by J. Eschsch.*

*Day & Son Litho in the Queen*

TOTANUS GLOTTIS.





*From Nature on Zinc by J. Erxleben*

*Day & Son, Lith<sup>rs</sup> to the Queen*

SCOLOPAX RUSTICOLA.







*From Nature on Zinc by J. E. Richardson*

*Day & Sons, Litho to the Queen*

LIMOSA RUF A.





*From Nature on Zinc by J. E. Silliman*

*By R. Sem. 1847 to His Queen*

HAMATOPUS CAPENSIS.



PL. L. K



*From Nature or Zinc by J. E. S. G. L.*

*Day & Son, Litho to the Queen*

HELIAS PHALENOIDES.





*From Nature on Stone by J. Ericsson.*

*Eng & Son, Lith'rs to the Queen.*

GLAREOLA PRATINCOLA.







*From Nature on Zinc by J. Erxleben.*

*Jay & Son, Litho to the Queen*

ARAMUS SCOLOPACEUS.





*From Nature on Zinc by J. F. G. G. G.*

*Drawn by G. S. G. G. G. to the Queen*

CECICNEMUS LONGIROSTRIS.





*From Nature on Zinc by J. Erxleben.*

*Dry & Son, Lith<sup>rs</sup> to the Queen.*

COLYMBUS SEPTENTRIONALIS.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith'rs to the Queen.*

PODICEPS CRISTATUS.







PL. 3.L.

*From Nature on Zinc by J. Eschsch.*

*Day & Son, Lith<sup>rs</sup> to the Queen.*

URIA TROILE.





*From Nature en Zinc by J. Estlin.*

*Buy & Sell Lists in the Queen*

EUDYPTE.





From Nature on Zinc by J. Erxleben

Thos. & Son, Litho<sup>s</sup> to the Queen.

GRACULUS CRISTATUS.





*From Nature on Zinc by J. Eschsch.*

*Deird. Sen. Lith. to the Queen.*

SOLA BASANA.







*From Nature on Zinc by J. Erxleben*

*Drawn from Life by the Queen*

·ONOCROTALUS.





*From Nature on line by J. Erxleben*

*Day & Son, Edin? to the Queen*

PROCELLARIA GIGANTIA.





*From Nature on Zinc by J. Eschsch.*

*Day & Son, Lith<sup>rs</sup> to the Queen.*

DIOMEDEA EXULANS.





*From Nature on Zinc by J. E. Leach.*

*Deay & Sons, Litho to the Queen.*

THALASSIDROMA PELAGICA.







*From Nature as given by J. Erskine.*

*Day & Son, Litho to the Queen.*

CHROICOCEPHALUS RIDIBUNDUS.





*From Nature en Xato by J. Erxleben*

*Day & Son, Litho to the Queen*

RHYNCHOPS NIGRA.



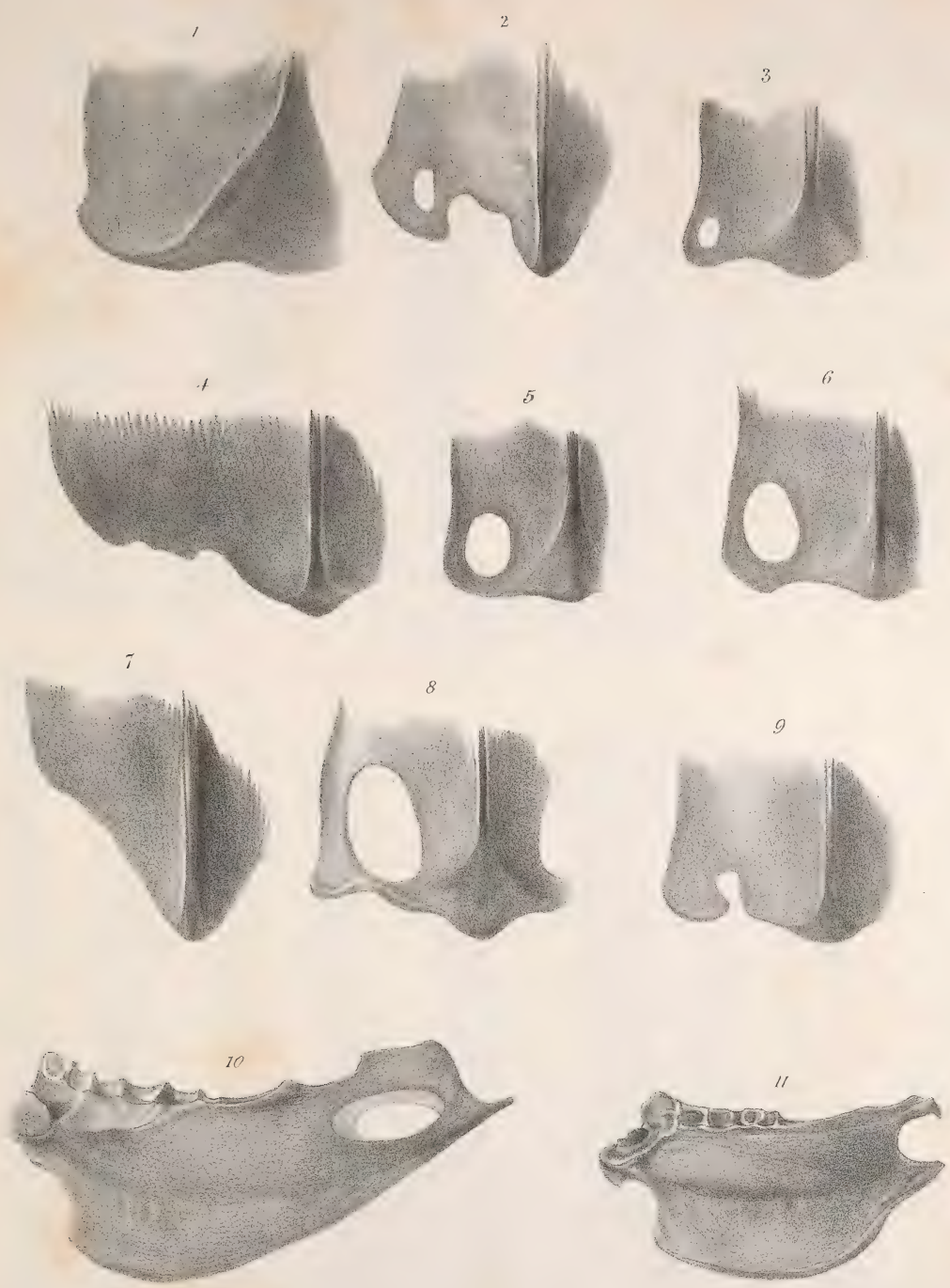


Fig 1. *Anala crysactos*.  
 2. *Cathartes aura*.  
 3. *Nesophron peronopterus*.  
 4. *Sarcorampus gryphus*.  
 5. *Gyps Fulvus*.

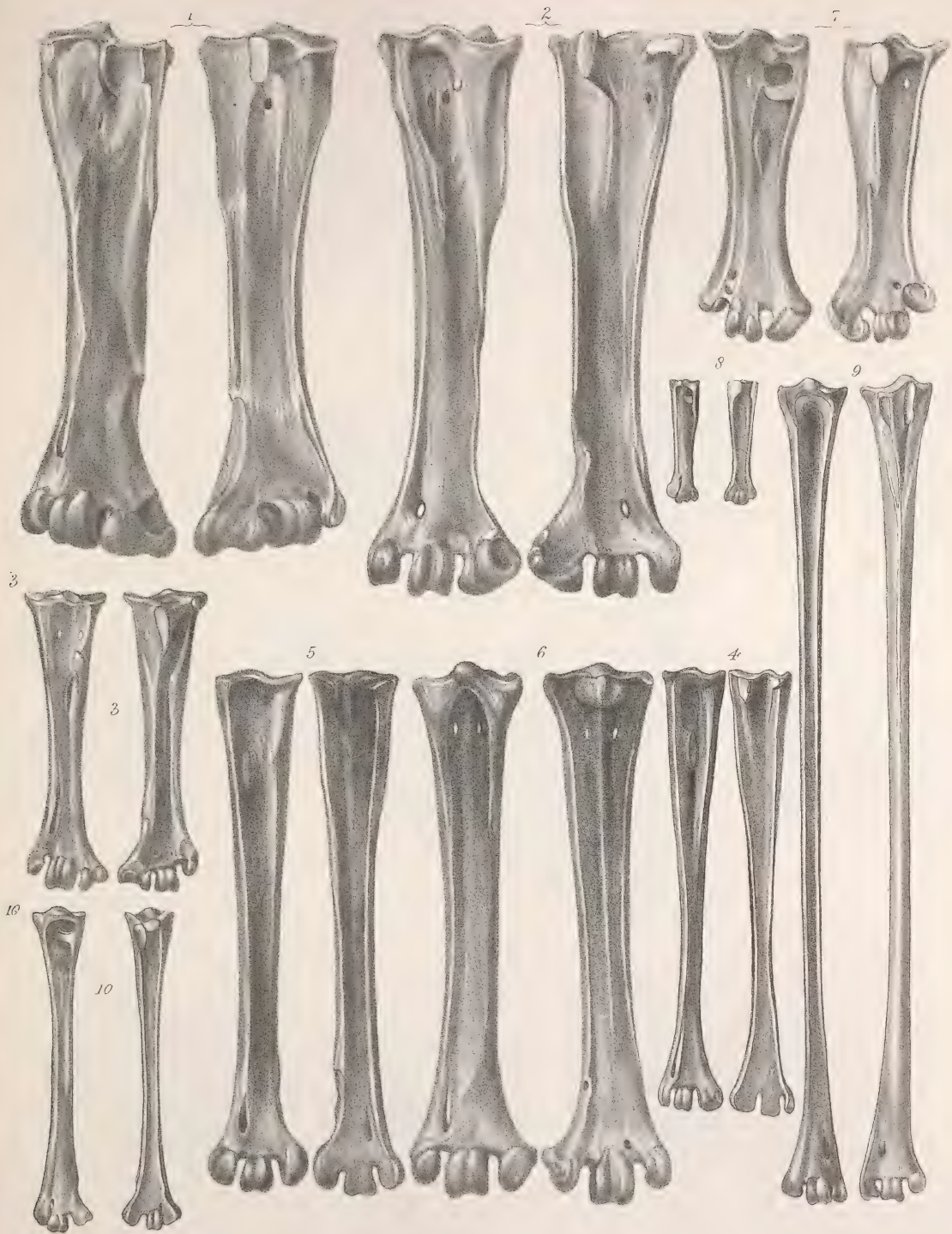
Fig 6. *Vultur cinereus*  
 7. *Serp. nasutus ruficaudatus*.  
 8. *Cathartes niger*.  
 9. *Polyborus tharus*.  
 10. *Gypaetos barbatus*.

*Sarcorampus papa*

From Nature on Stone by J. Buxleben.

From the Zool. Museum.





1. *Alcedo didactyla* (Linn.)  
 2. *Alcedo didactyla* (Linn.)  
 3. *Pipilo maculatus* (Linn.)  
 4. *Pipilo maculatus* (Linn.)  
 5. *Pipilo maculatus* (Linn.)  
 6. *Pipilo maculatus* (Linn.)  
 7. *Pipilo maculatus* (Linn.)  
 8. *Pipilo maculatus* (Linn.)  
 9. *Pipilo maculatus* (Linn.)  
 10. *Pipilo maculatus* (Linn.)  
 11. *Pipilo maculatus* (Linn.)  
 12. *Pipilo maculatus* (Linn.)  
 13. *Pipilo maculatus* (Linn.)  
 14. *Pipilo maculatus* (Linn.)  
 15. *Pipilo maculatus* (Linn.)  
 16. *Pipilo maculatus* (Linn.)





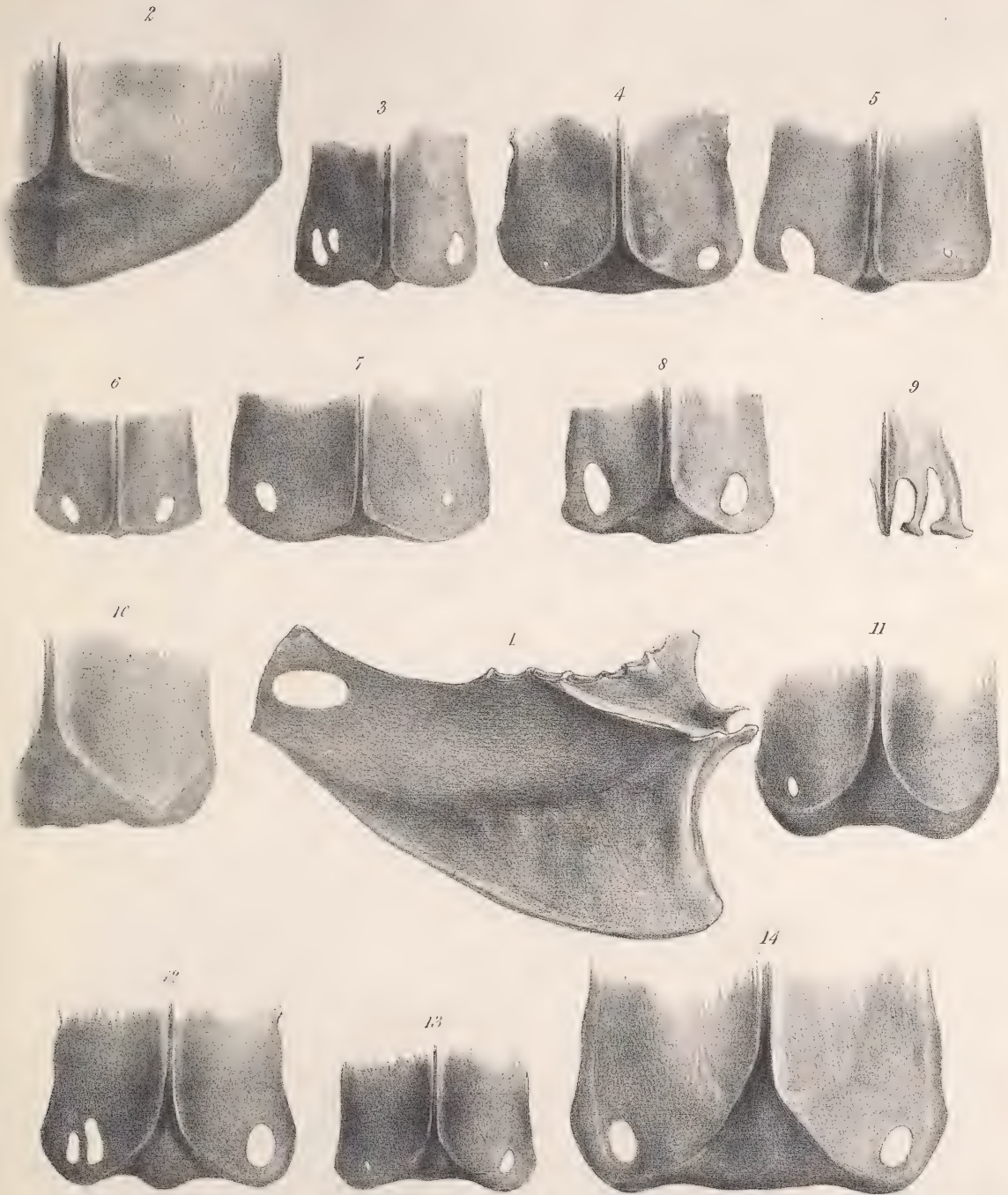


Fig. 1. *Falco Gyrfalco*.  
 " 2. *Pandion Leucocephalus*.  
 " 3. *Hieracidea Berigora*.  
 " 4. *Circus Cyaneus*.  
 " 5. *Ibycter Ater*.  
 " 6. *Accipiter Nisus*.  
 " 7. *Mimus Migrans*.

Fig. 8. *Cyrnoides Tricinctus*.  
 " 9. *Hierac Bengalensis*.  
 " 10. *Pandion Haliaeetus*.  
 " 11. *Circus Brachyotactylus*.  
 " 12. *Spizacus Cirrhatus*.  
 " 13. *Haliastur Ponticarianus*.  
 " 14. *Aquila Neria*.



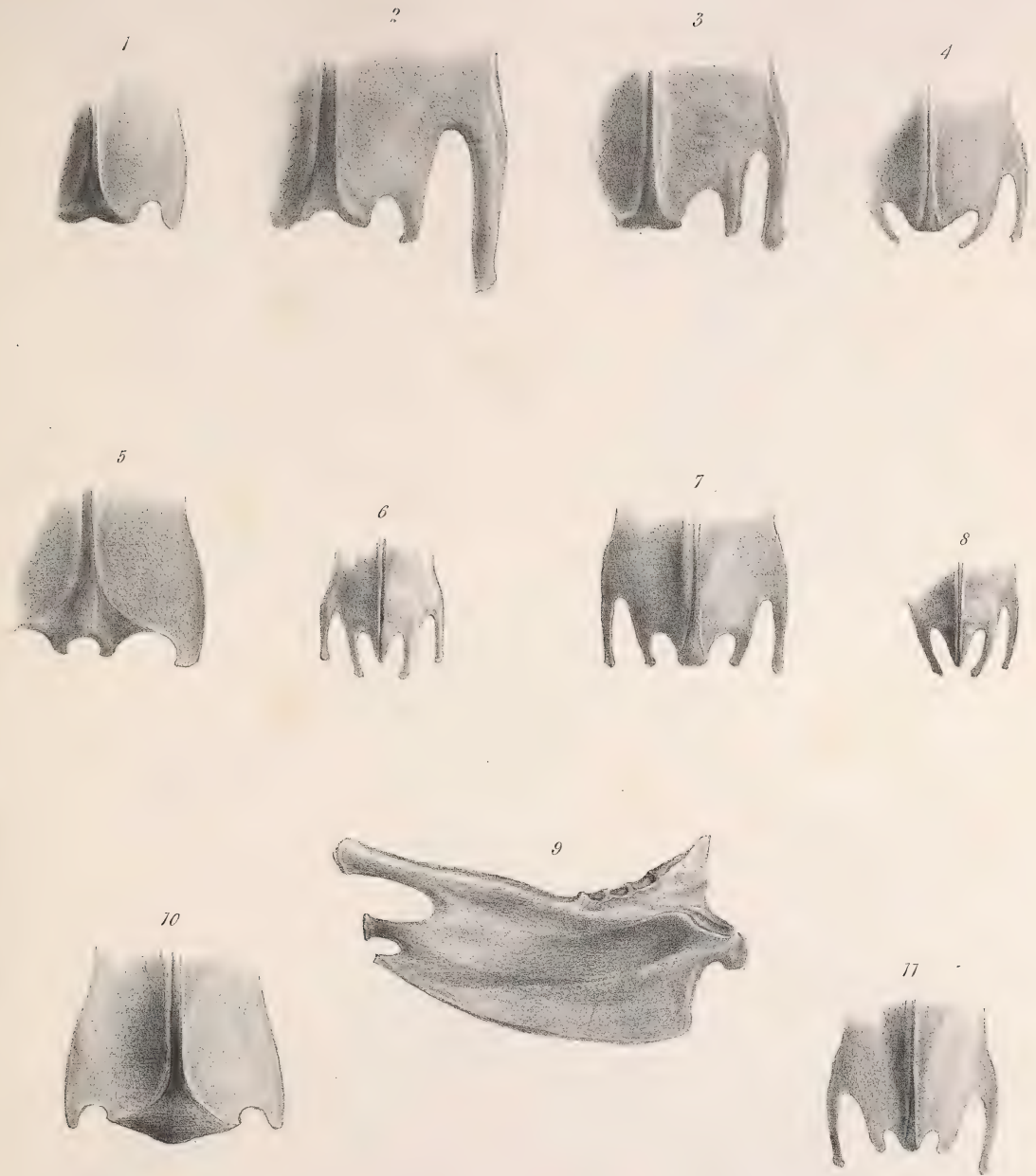


Fig. 1. *Strix Delicatulus.*      Fig. 6. *Myctale Tengmaïmi.*  
 " 2. *Nyctea Nivea.*            " 7. *Asio Brachyotus.*  
 " 3. *Lasiurus Javanensis.*    " 8. *Noctua (Jamaica)*  
 " 4. *Eptesiles Grammicus.*    " 9. *Bubo Bengalensis.*  
 " 5. *Strix Praticola.*         " 10. *Strix Flammea.*  
    Fig. 11. *Athene Marmorata.*





Fig 1. *Sarcoramphus Papa*.  
 " 2. *Aquila Cynereus*.  
 " 3. *Flyctea litrea*.  
 " 4. *Falco Peregrinus*.  
 " 5. *Pandion Haliaetus*.

From *Journal of the Linn. Soc.* by T. B. Richardson.

Day & Son, Lithrs to the Queen



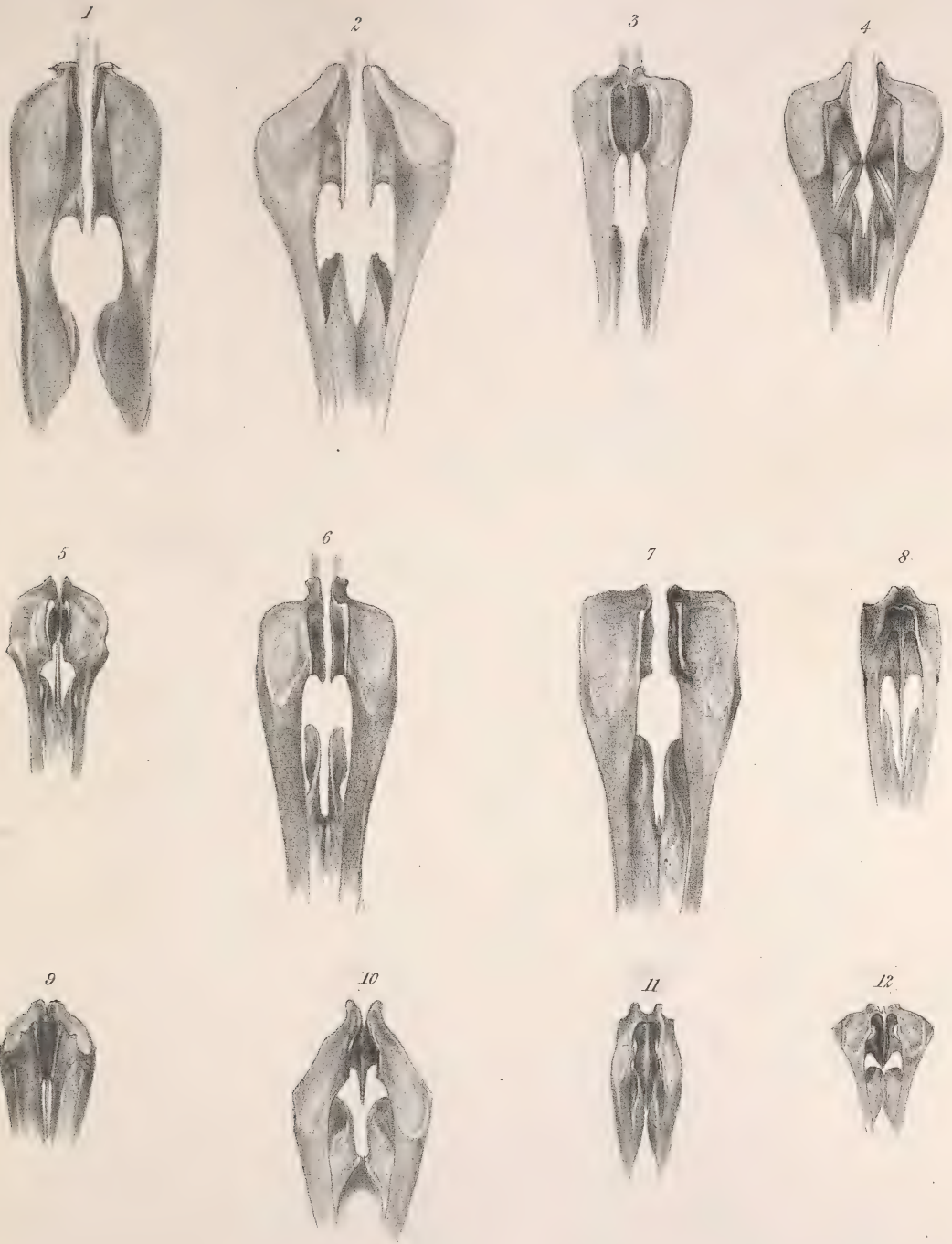


Fig. 1. *Sarcoramphus Gryphus.*  
 " 2. *Serpentarius Reptilivorus.*  
 " 3. *Neophron Percnopterus.*  
 " 4. *Polyborus Tharus.*  
 " 5. *Falco Peregrinus.*  
 " 6. *Aquila Chrysaetos.*

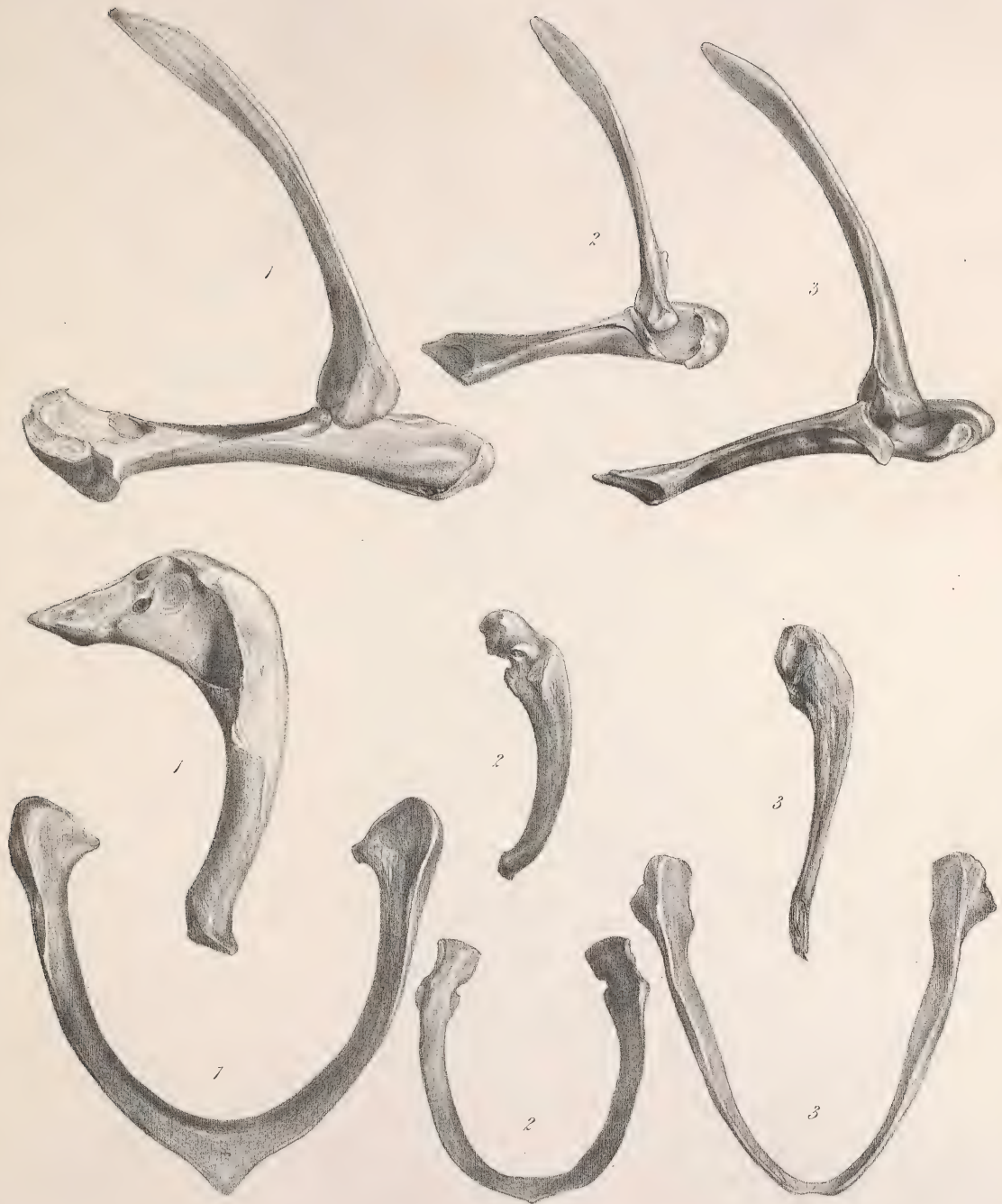
Fig. 7. *Circæetus Brachydactylus.*  
 " 8. *Spicætos Cirrhatus.*  
 " 9. *Heracidea Berigora.*  
 " 10. *Hyctes Nivea.*  
 " 11. *Strix Delicatulus.*  
 " 12. *Asio Brachyotus.*

*From Nature on Zinc by J. Erxleben*

*Dry & Son, Litho to the Queen.*







From *Nidaro* on Zinc by J. Erxleben.

Fig. 1. *Sarcoramphus Papa*.  
 " 2. *Falco Peregrinus*.  
 " 3. *Nyctea Nivosa*.

Dez & Son, Lith<sup>rs</sup> to the Queen.



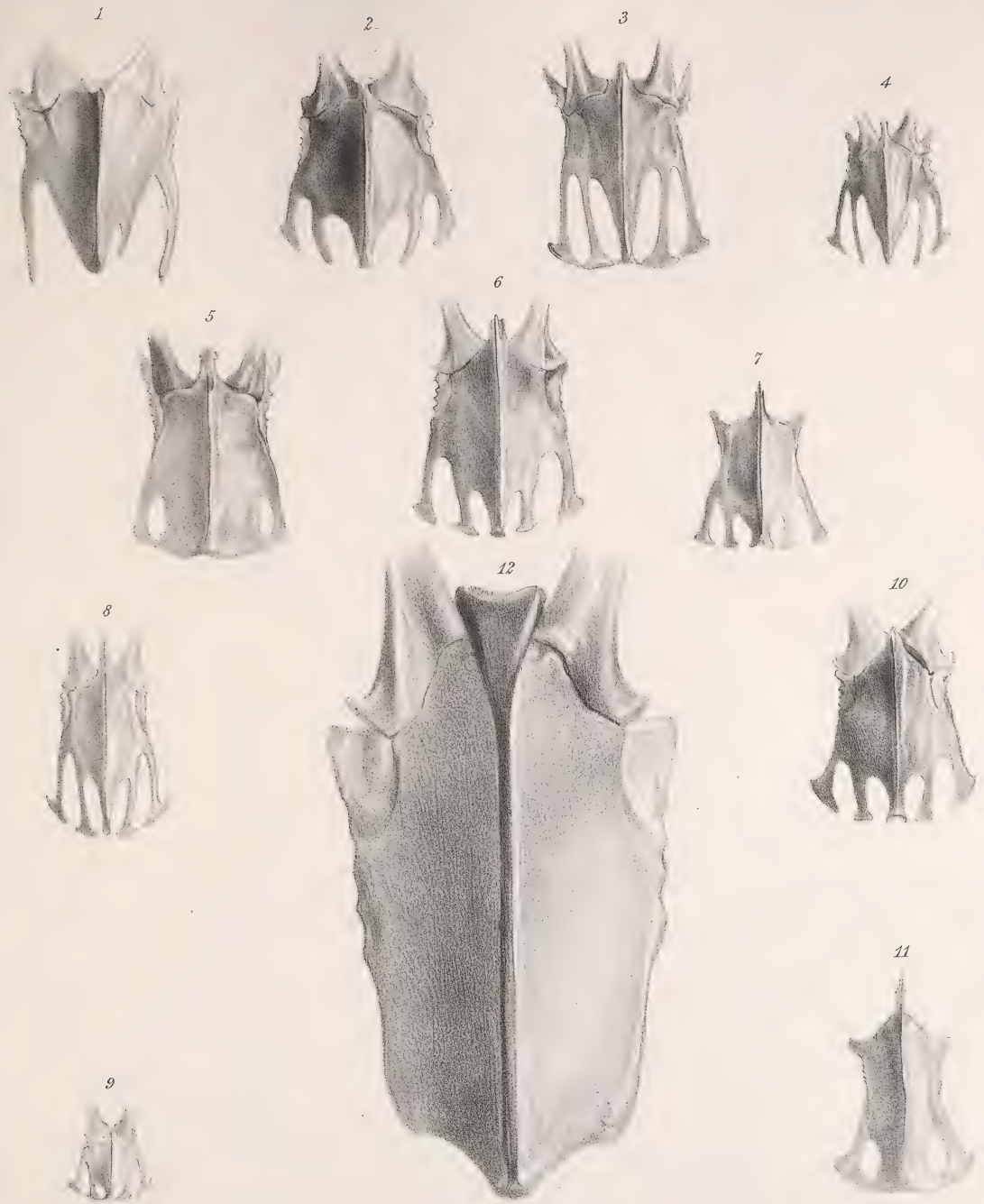
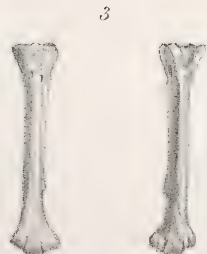
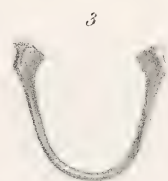
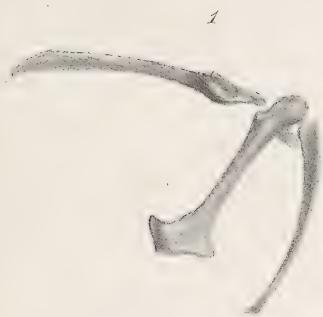
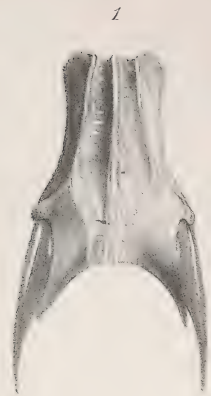


Fig. 1. *Podargus Humeralis*.  
 " 2. *Harpactes Reinswartii*.  
 " 3. *Megalaima Corvina*.  
 " 4. *Cheloniidera Tenebrosa*.  
 " 5. *Eurylaimus Samatranus*.  
 " 6. *Eurystormus Orientalis*.

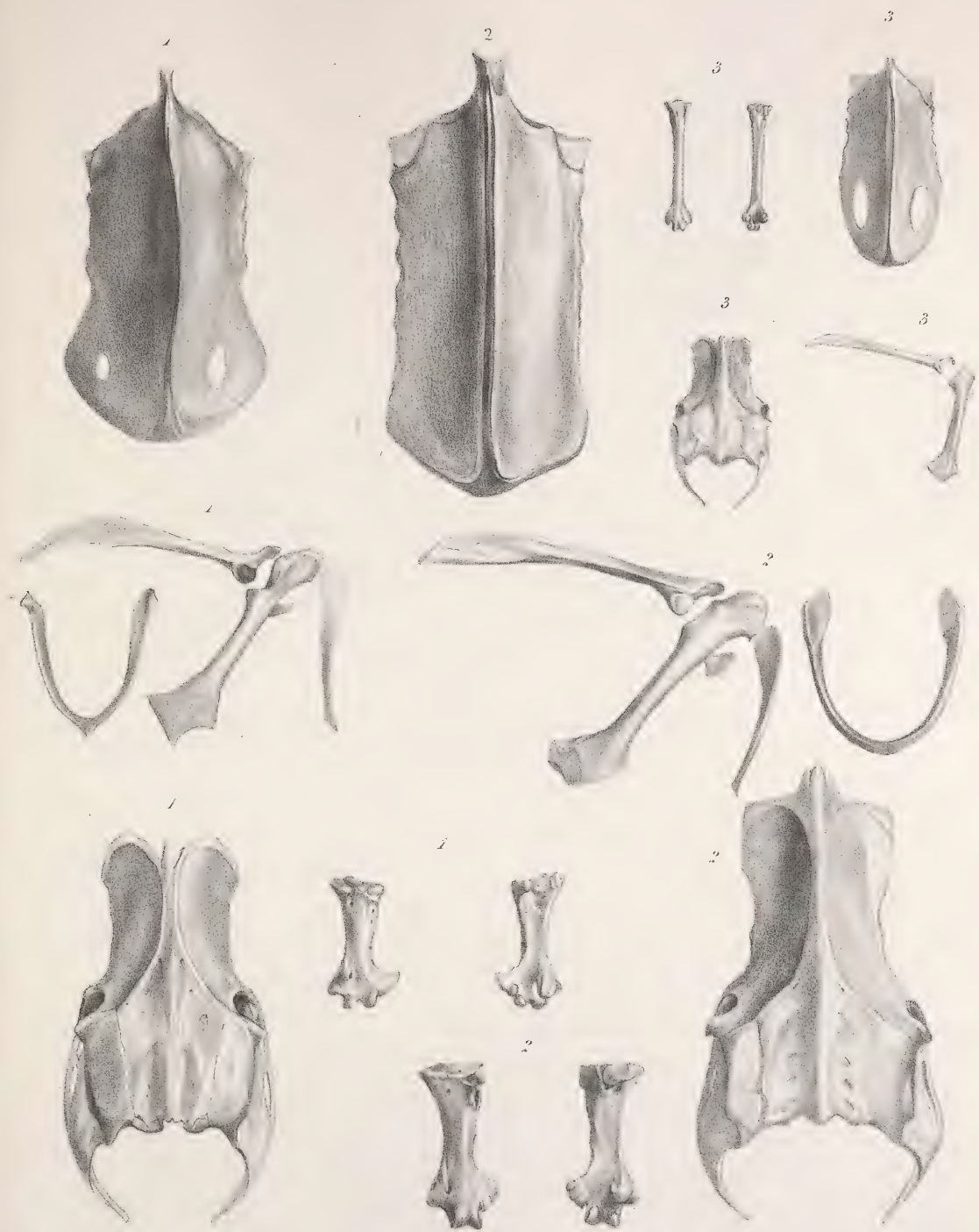
Fig. 7. *Alcedo Ispida*.  
 " 8. *Merops Bicolor*.  
 " 9. *Todas Viridis*.  
 " 10. *Coracias Garrala*.  
 " 11. *Upupa Epops*.  
 " 12. *Buceros Abyssinicus*.





Figs. 1. *Podargus Humeralis*.  
 „ 2. *Dacelo Leachii*.  
 „ 3. *Pezoporos Formosus*.





Illustrations on Bone by J. Brachler.

Dever & Sons, Litho to the Queen.

Figs. 1. *Psittacus Erythacus*  
 ,, 2. *Calyptorhynchus Baudinii*.  
 ,, 3. *Pezoporus Formosus*.







*Figs. 1. Pottacus Erythacus. — Figs. 2. Cecinus Viridis.*





Fig. 1. *Podargus Humeralis*.  
 ,, 2. *Harpactes Reinwartii*  
 ,, 3. *Megalaima Virens*.  
 ,, 4. *Chelonidera Tenebrosa*.  
 ,, 5. *Eurylaimus Sumatranus*.  
 ,, 6. *Dacelo Gigantea*.  
 Fig. 7. *Merops Bicolor*.  
 ,, 8. *Todus Viridis*.  
 ,, 9. *Coracias Garrula*.  
 ,, 10. *Upupa Epops*.  
 ,, 11. *Buceros Panini*.  
 ,, 12. *Momotus Brazilianis*.

from Nature on Zinc by J. Erskine.

Dryden, Lith. to the Queen.



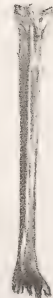
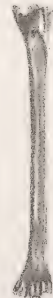
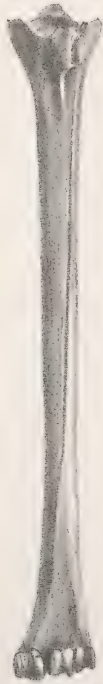
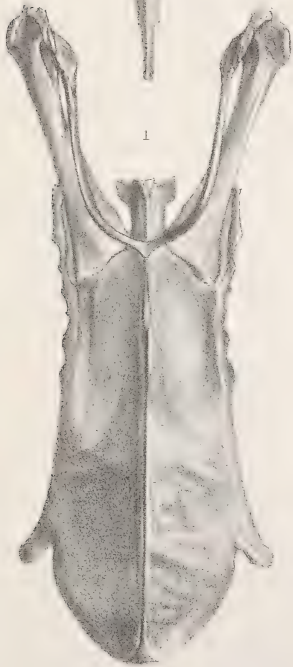
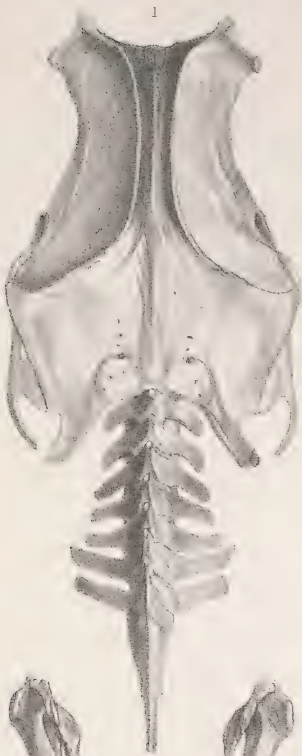


Figs. 1. *Centropus Phasianus*.  
 „ 2. *Tyraculus Gigas*.  
 „ 3. *Pteroglossus Bairdii*

Nature in Zinc by J. E. S. P. S.

Dr. C. A. Lillie del. et sculp.





*From Nature's of Zinc by J. Eschschon*

*by A. C. Smith 1877 to the Queen*

1. MENURA SUPERBA. 2. PTEROPTOCHOS ALBICOLLIS.





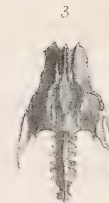


*From Nature on Zinc by J. Enderby*

*Dry & Son, Litho to the Queen.*

1. TROPHODORHYNCHUS ARGENTICEPS. — 2. TROGLODYTES VULGARIS.  
 3. TROGLODYTES VULGARIS. — 4. HIRUNDO RIFLETTIA.  
 5. NECTARINIA JAVANICA.





*From Nature on Zinc by E. Sarsen.*

*Drawn & Sent 1867 to the Queen.*

1. TYTYRA INQUISITOR.—2. PETRICOLA AURANTIA.  
3. TCHITREA MELANOPYGA.

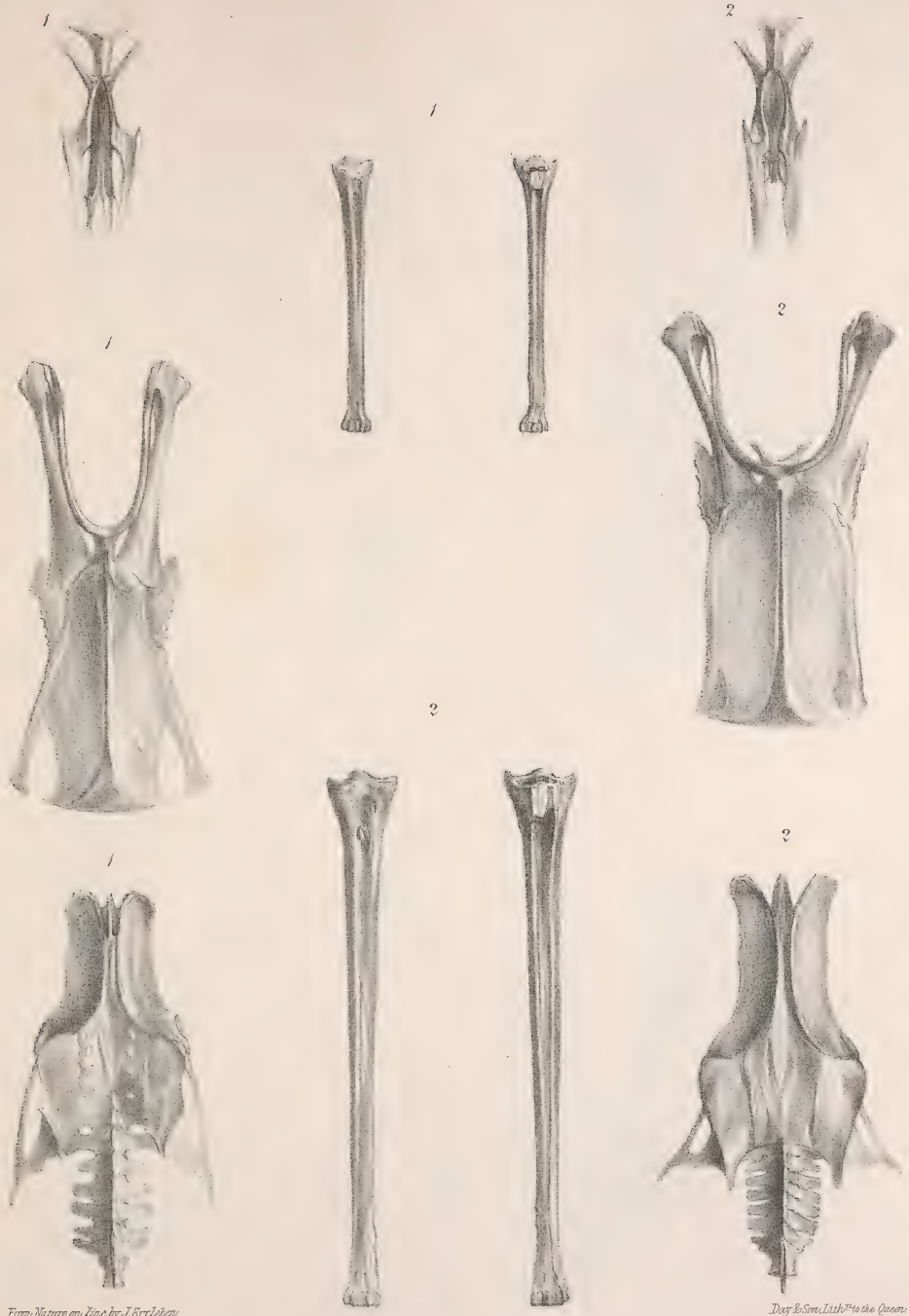




*From Nature on Zinc by J. E. Reichenow.*

1. ALAUDA ALPESTRIS. 2. PÆUS CŒRULEUS  
3. MALURUS CYANEUS. 4. PHILOMELA VULGARIS.





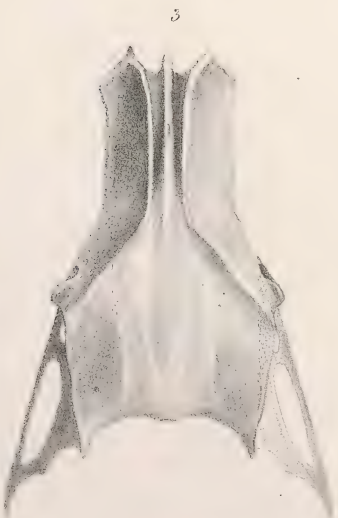
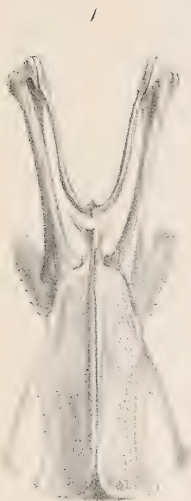
From Nature on Line by J. Brückner

Day & Son, Litho to the Queen

1. *Cassicus bifasciatus*.  
2. *Neomorpha Gouldii*.





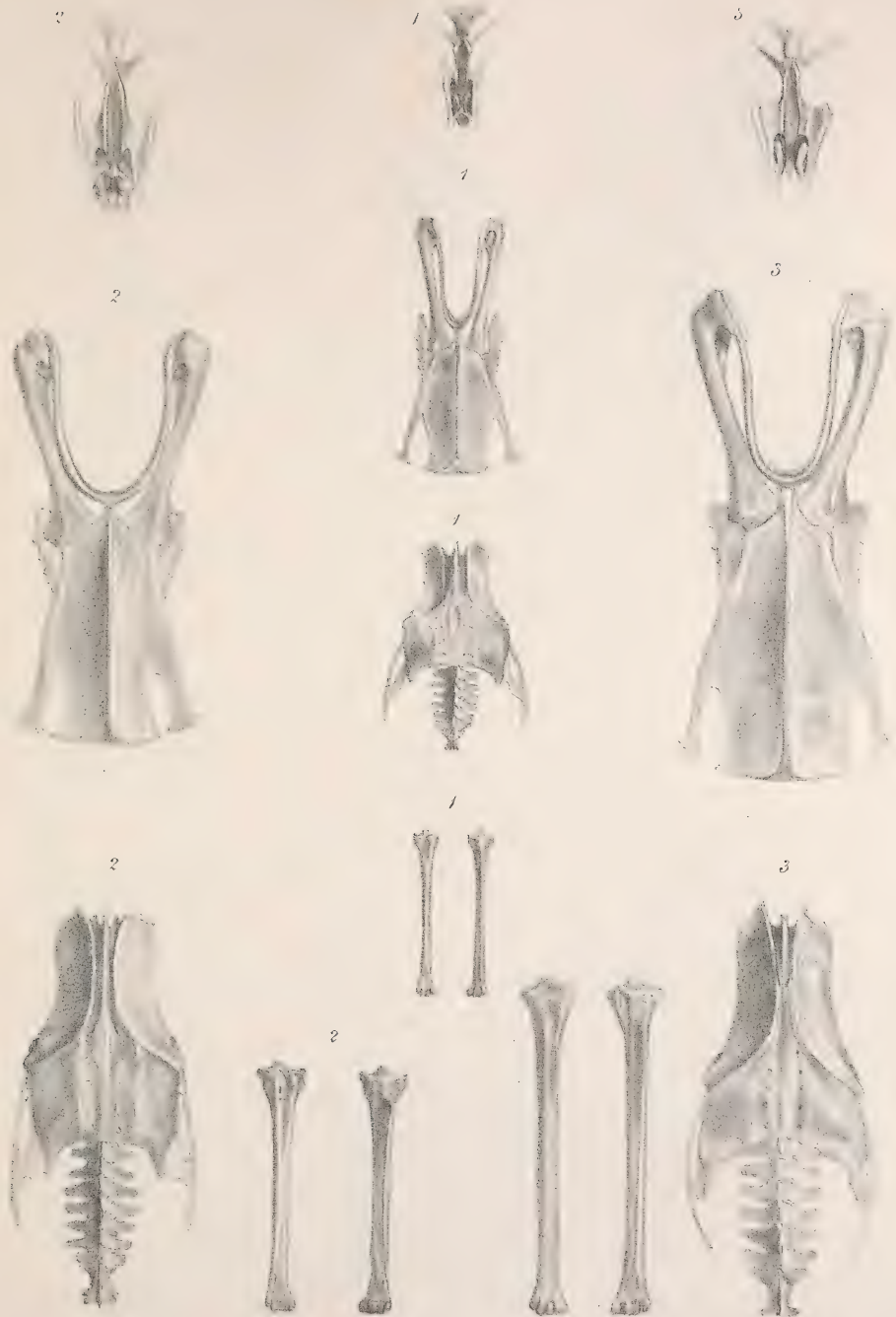


From Nature on 20th of J. Eiselein.

Drawn by J. G. Rehn.

- 1. *Scolephagus major*.
- 2. *Cyclarius guanensis*.
- 3. *Cephalopterus pencluliger*.



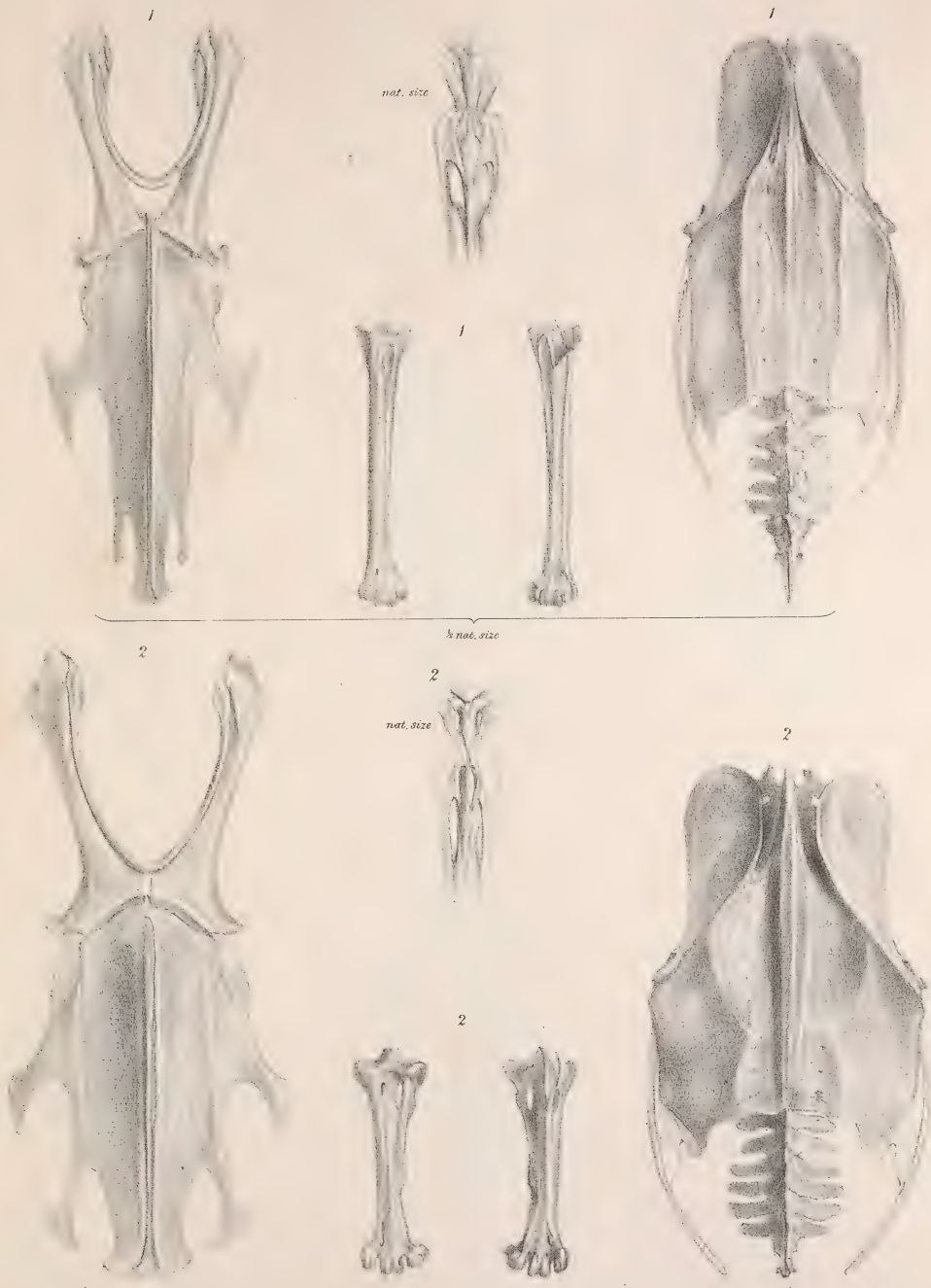


From *Nature en Zinc* by J. Escalier.

Day & Sons, Litho to the Queen

1. *Saltator magnus.*
2. *Gypsirhina leucoptera.*
3. *Fregilus graculus.*





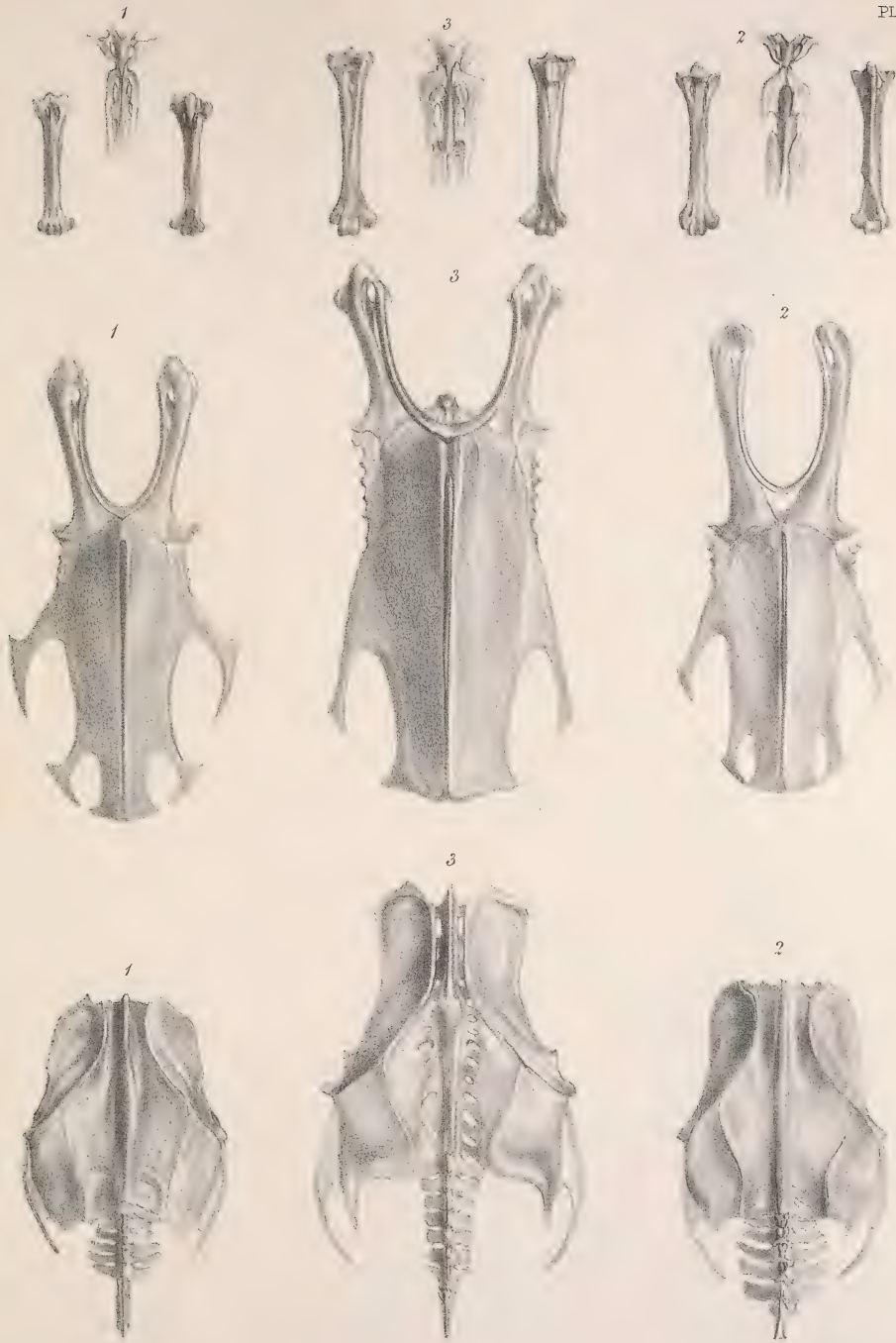
From *Nature on Line* by J. Frilichen.

nat. size

Day & Son Litho to the Queen.

- 1. *Goura coronata*
- 2. *Columba magnifica*





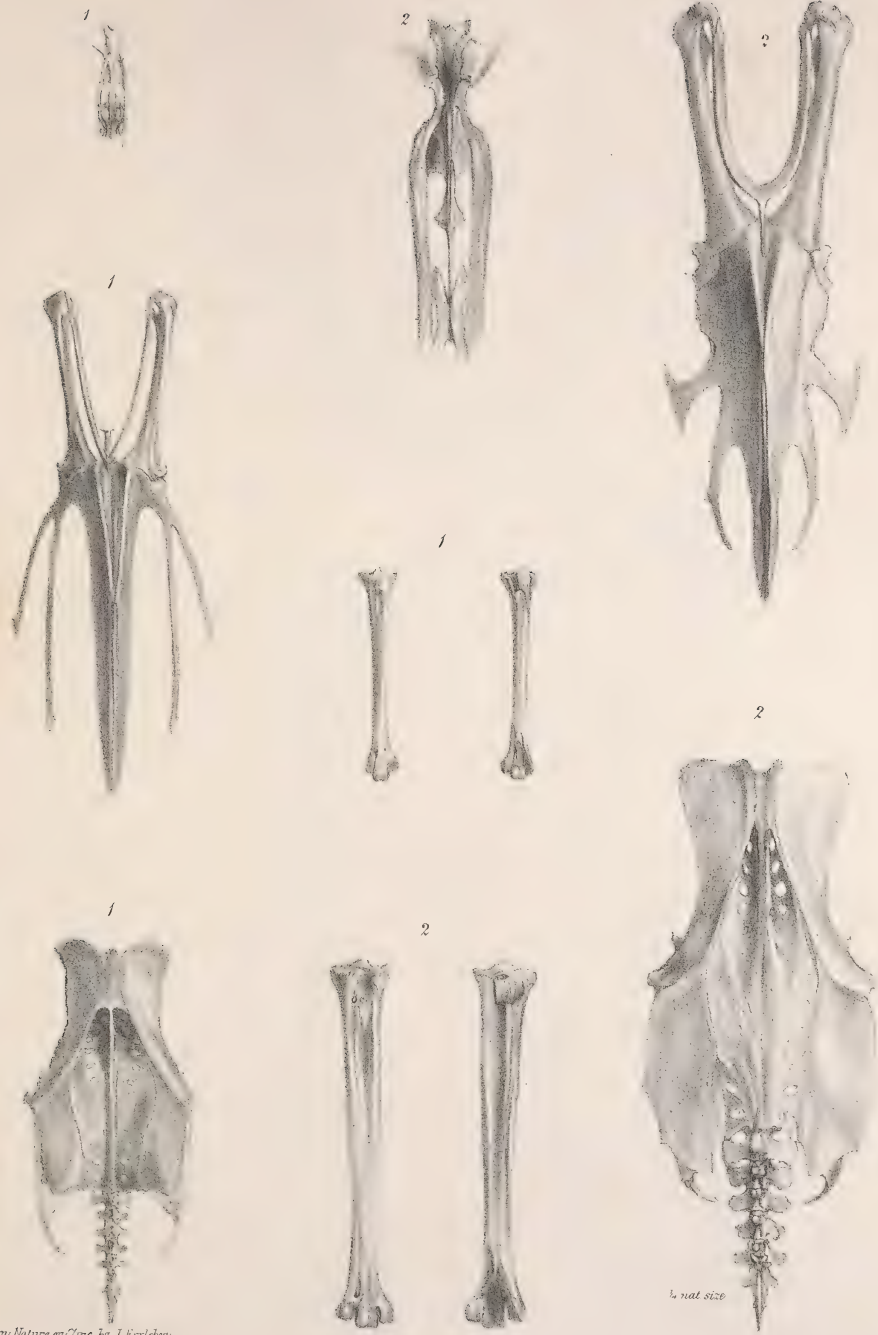
From Nature et Zooc by J. Erzdelen.

Lay & Son, Lith<sup>s</sup> to the Queen.

- 1 *Phalacrotrichon nudirostris*
- 2 *Ptilinopus cinctus*
- 3 *Attagis Gayi*





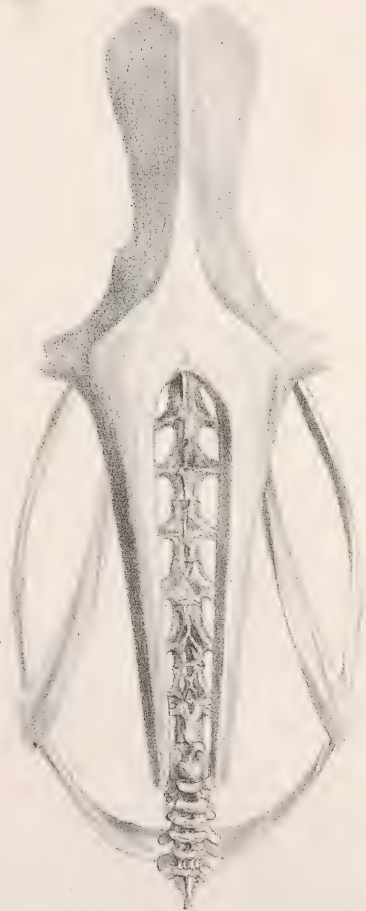


From Nature enl'ore by J. Hildebrand

Dry & Son, Lith<sup>rs</sup> to the Queen

- 1. *Lophortyx californicus*.
- 2. *Crax globicera*.





*From Nature on Zinc by J. Eschsch.*

*Drawn by Sam. Lusk for the Queen.*

*Struthio Camelus.*





*From Nature on Zinc by J. Enckelbar.*

*Day & Son, Lithrs to the Queen*

*Casuarium emu.*





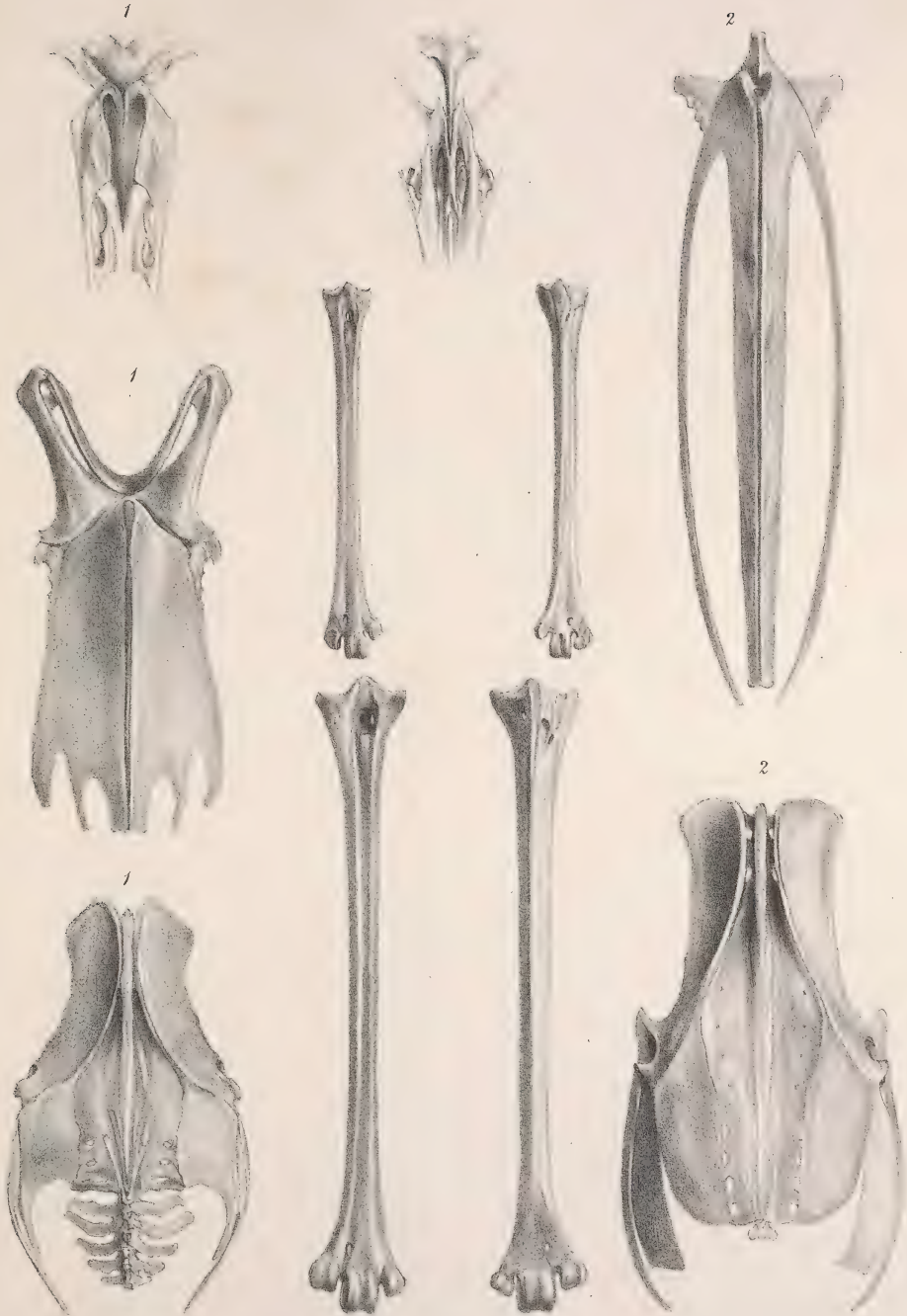
*From Nature on line by J. Escalbau*

*Day & Son, Lithrs to the Queen*

*Apterix Australis.*







*From Nature on Zinc by J. Brachman*

*Drawn by S. J. Lillie for the printer*

1. *Otis Houbara.*
2. *Tinamus Brasiliensis.*

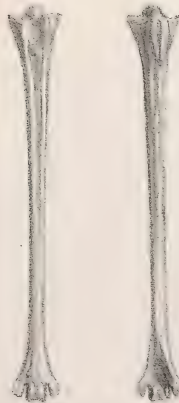




1/2 nat. size



2



2



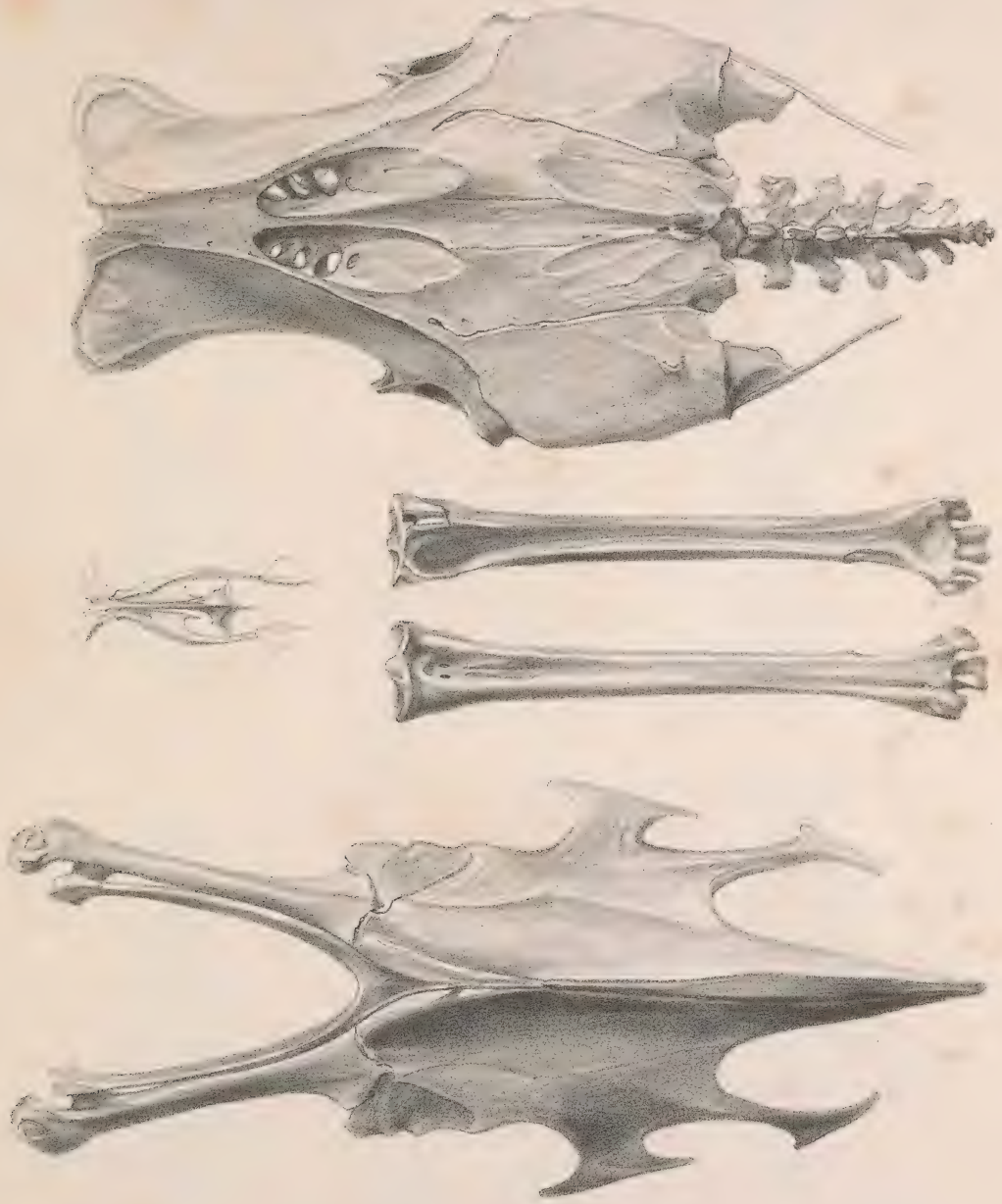
From *Natura ou l'incroyable Eruditon*

1/2 nat. size

Day & Son, Litho to the Queen

- 1. *Threskiornis melanocephalus*,
- 2. *Tantalus ibis*
- 3. *Aramus scolopaceus*



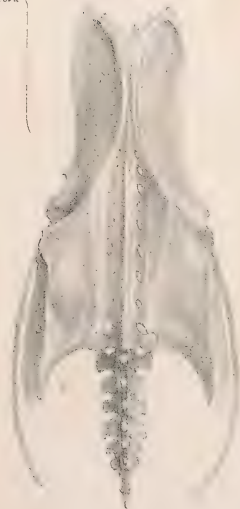


*From nature on Zinc by J. Erxleben*

*Deys & Comp. Lith. to the Queen*

OREOPHASIS DERBYANUS.





From Nature on Zinc, by J. Erxleben

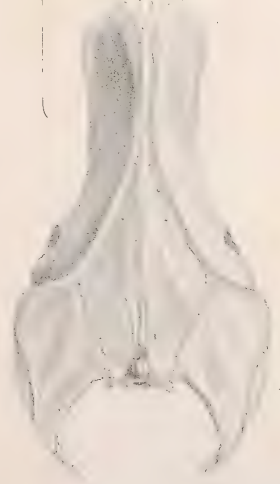
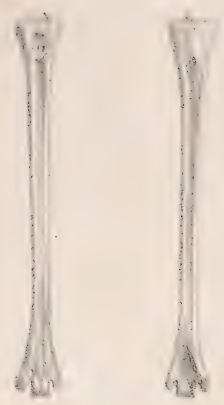
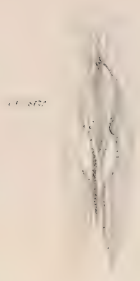
1/2 nat. size

Day & Son, Litho<sup>r</sup> to the Queen.

- 1. *Cariama cristata*.
- 2. *Phanicopterus ruber*.





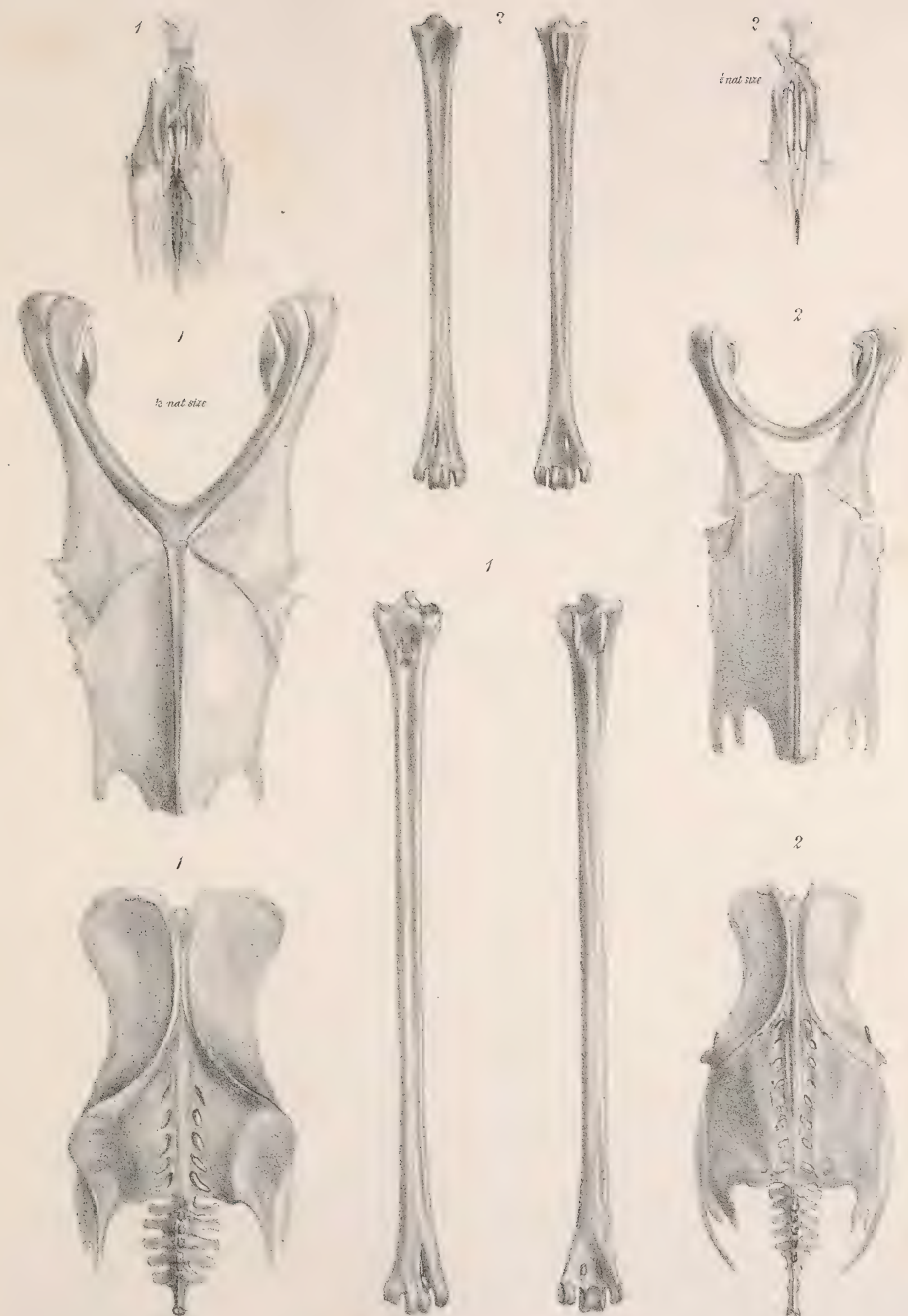


From Nature on loan to J. Eschsch

By G. S. on loan to the Queen

1. *Psophia viridis*:
2. *Scops Balearica*.





From Nature on line by J. Escalera

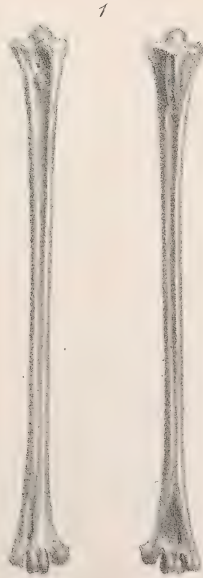
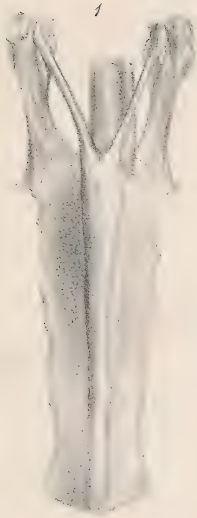
Day & Son Litho to the Queen

- 1. *Leptophilus argala*.
- 2. *Platylea lencorodia*





2

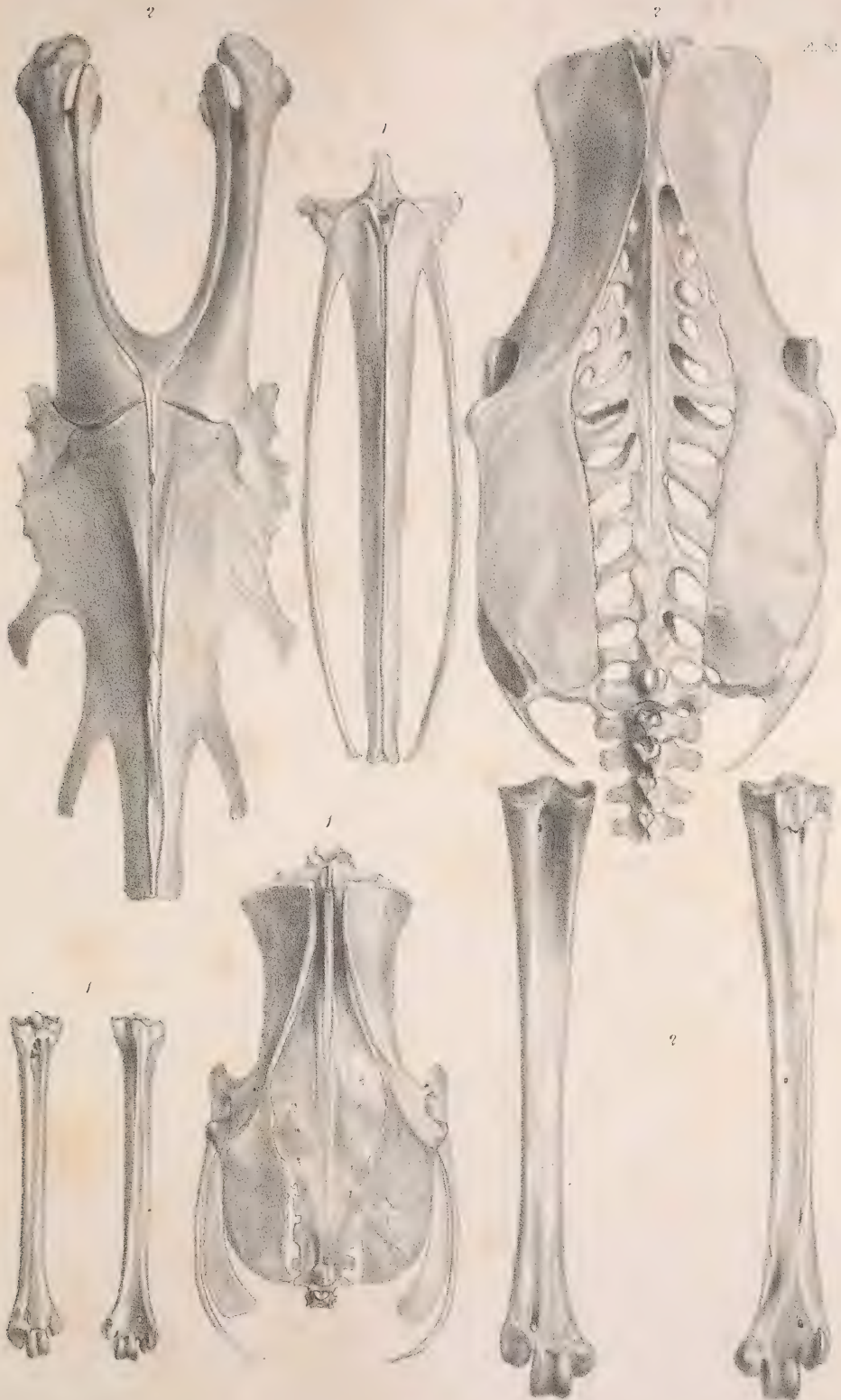


From Nature on line by J. Ericsson.

Day & Son, Litho<sup>s</sup> to the Queen.

- 1. *Scops Virgo.*
- 2. *Ciconia alba.*





*From Nature on Zinc by J. Embley.*

*By A. S. Smith to the Queen.*

1. TINAMUS BRASILIENSIS. 2. CRAX MITU.







1/2 nat. size



2



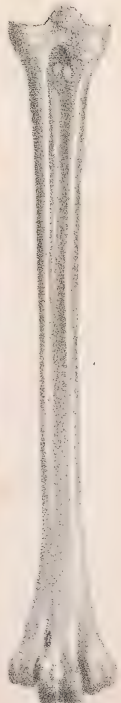
2



2



1/2 nat size



2

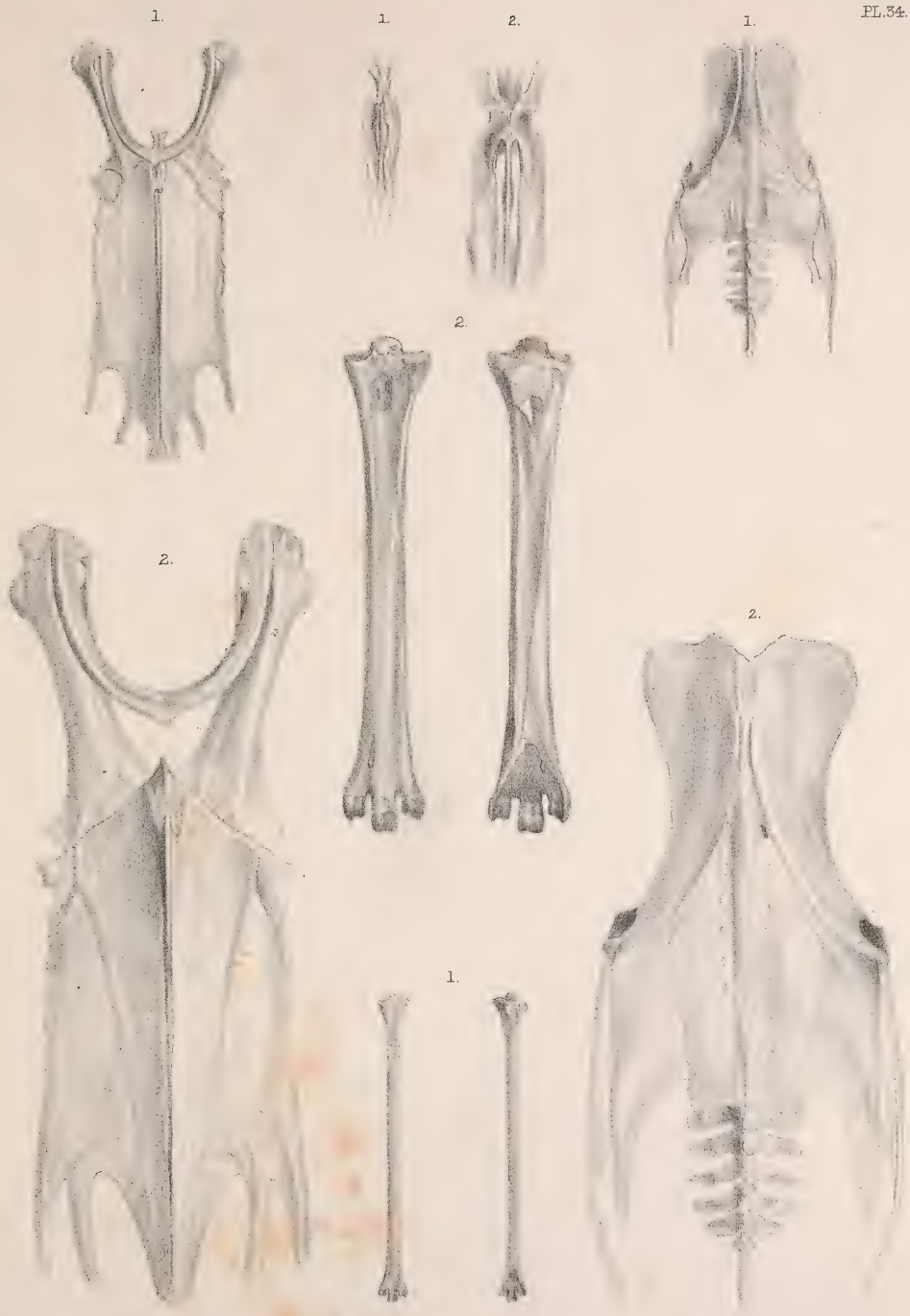


*From Nature et. Soc by J. E. Huxley*

*Des. & Sculp. Lith. to the Queen*

1. TANTALUS IBIS. 2. THRESKIONIS MELANOCEPHALA.





*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith. to the Queen.*

1. TOTANUS, GLOTTIS. 2. HARPIPRION HAGABACH.



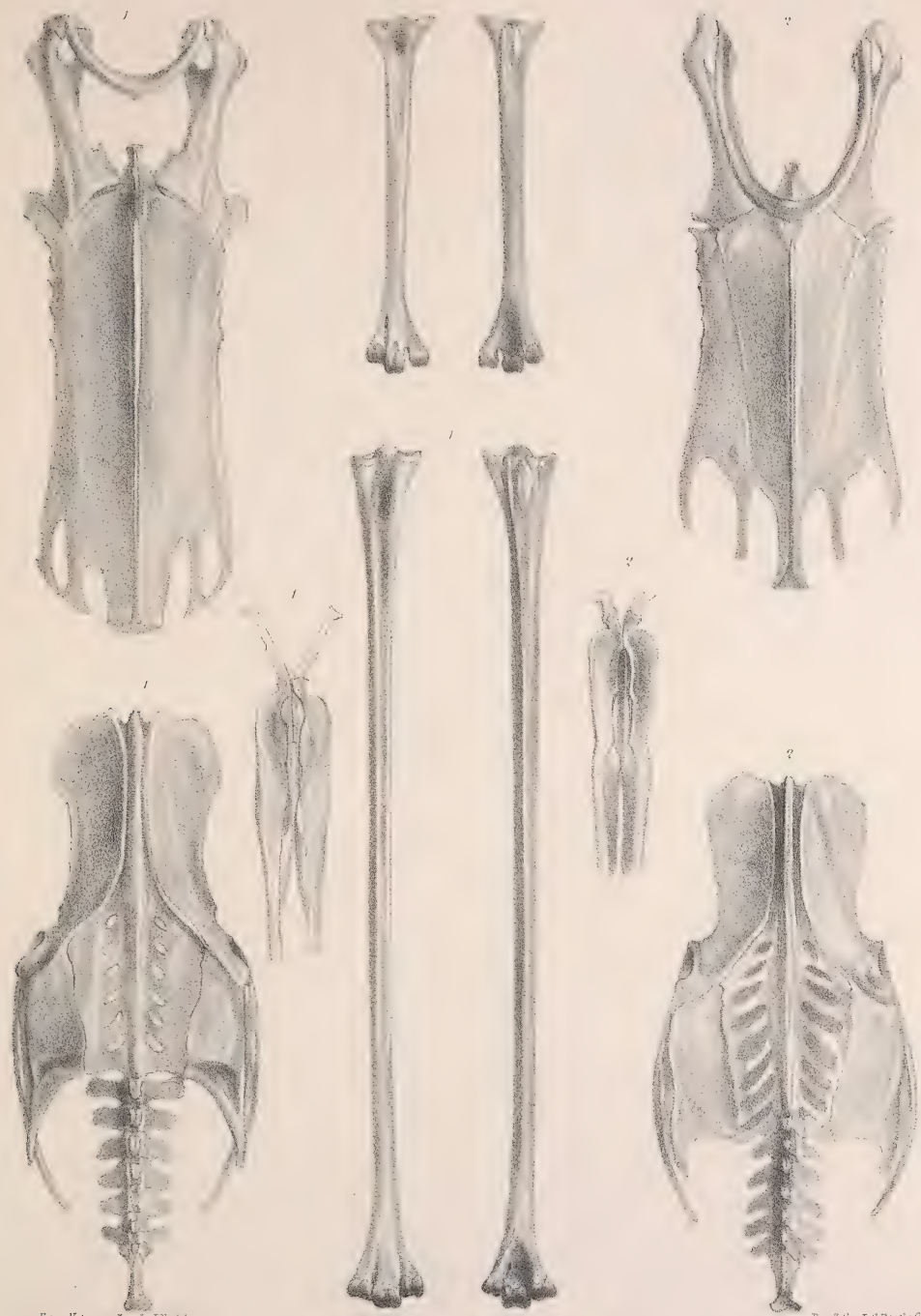


*From Nature on Zinc by J. Erxleben.*

*Day & Son, Lith<sup>rs</sup> to the Queen.*

1. SCOLOPAX RUSTICOLA. 2. GLAREOLA PRATINCOLA.





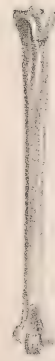
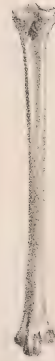
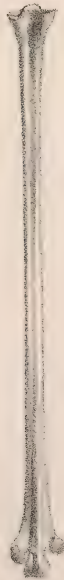
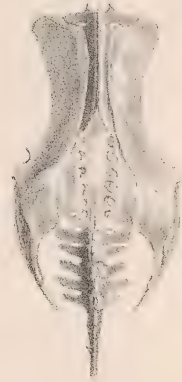
*From Nature on Zinc by J. Eschsch*

*Day & Son Lith<sup>rs</sup> to the Queen*

1. CEDICNEMUS LONGIROSTRIS. 2. SCOLOPAX RUSTICOLA.





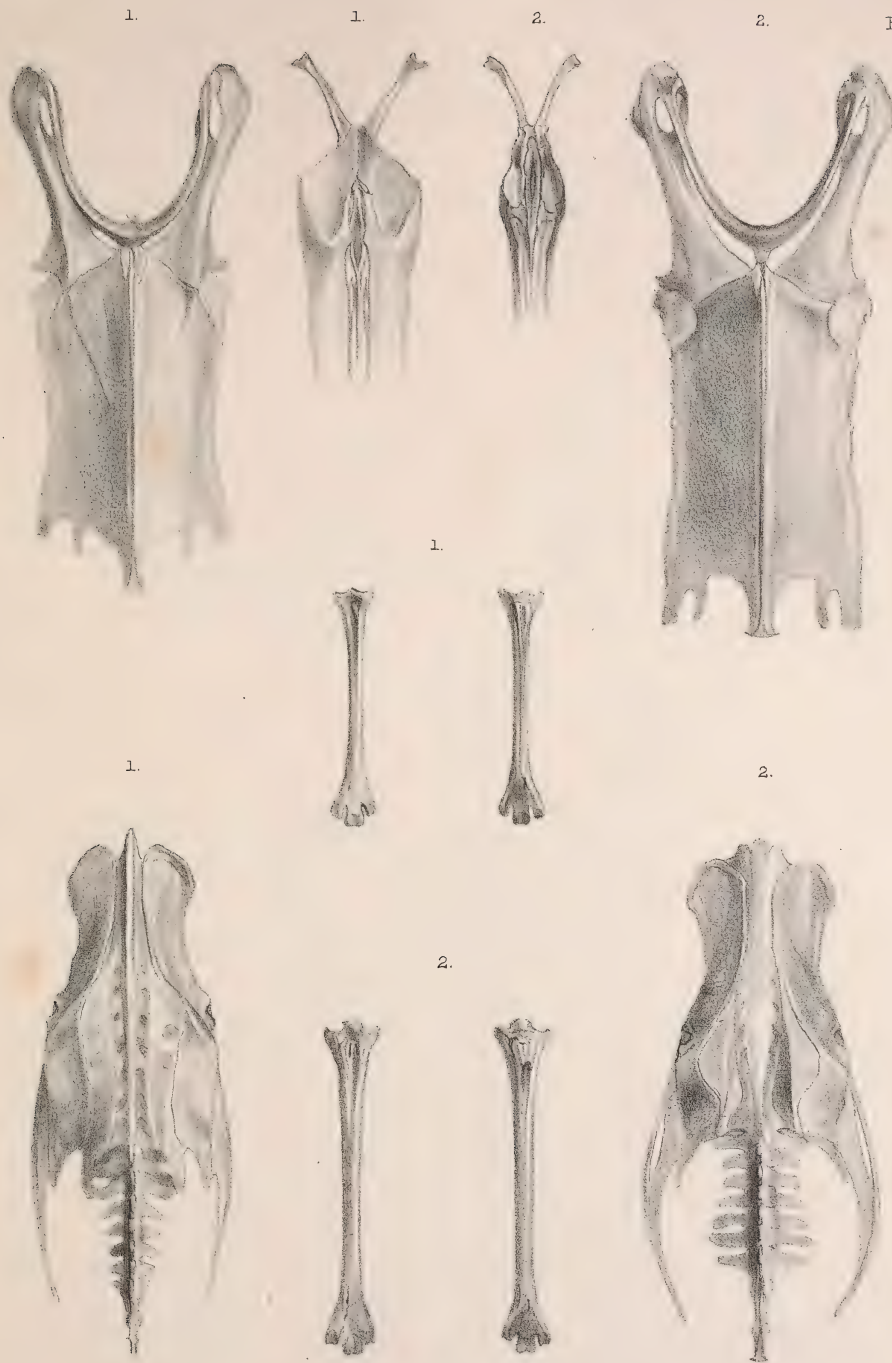


*From Nature on Zinc by J. Erskine.*

*Day & Son, Litho to the Queen.*

1. LIMOSA RURA. 2. HELIAS PHALENOIDES.



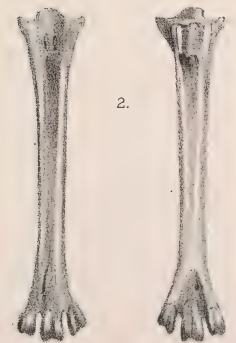
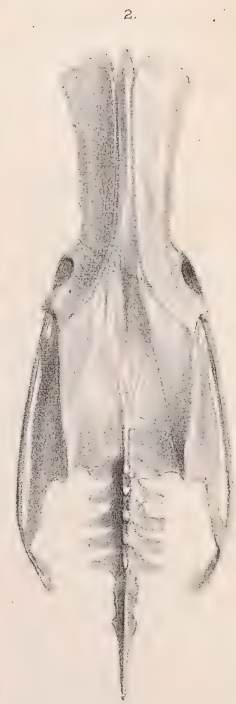
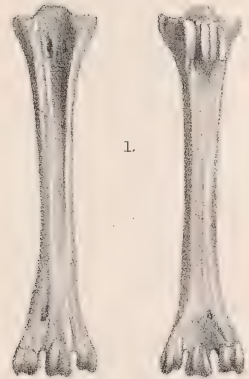
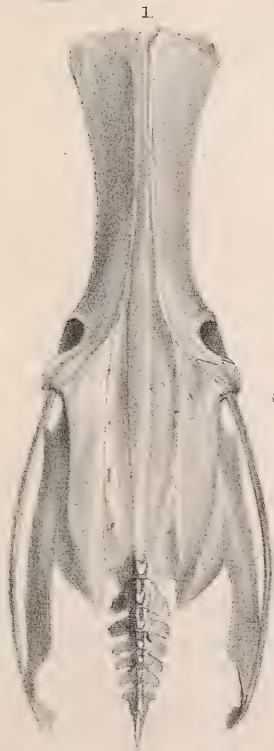
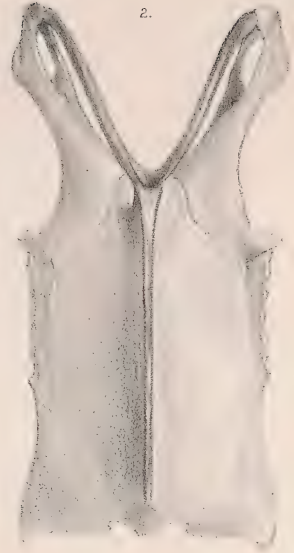
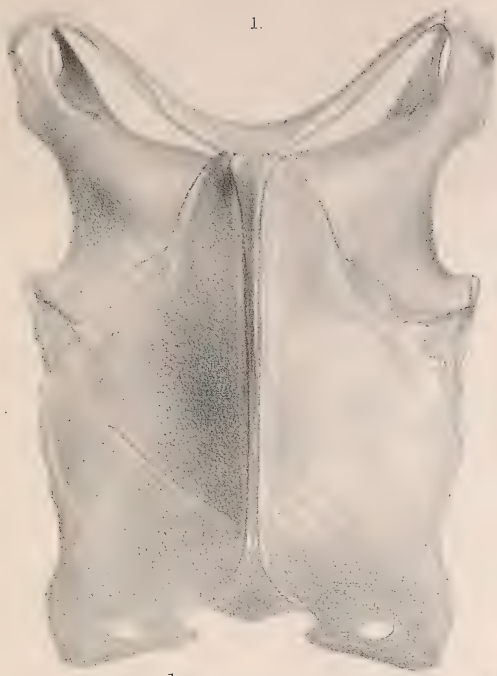


*From Nature on Zinc by J. Erskelen.*

*Day & Son, Lith<sup>rs</sup> to the Queen.*

1. RHYNCOPS NIGRA. 2. CHIROICOCEPHALUS RIDIBUNDUS.



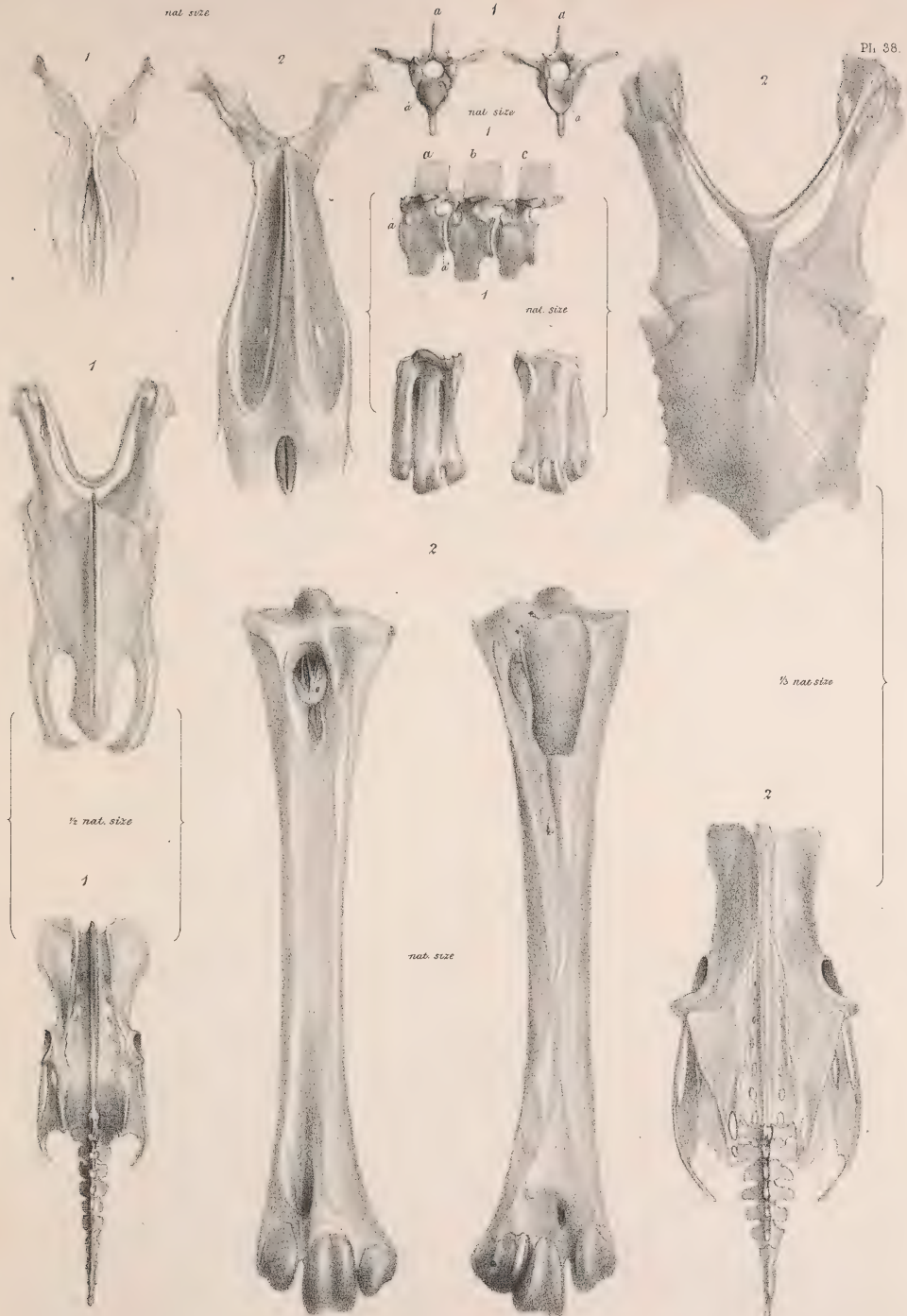


From Nature on Zinc by J. Eschsch.

Day & Son, Litho to the Queen.

1. DIOMEDEA EXULANS. 2. PROCELLARIA GIGANTEA.





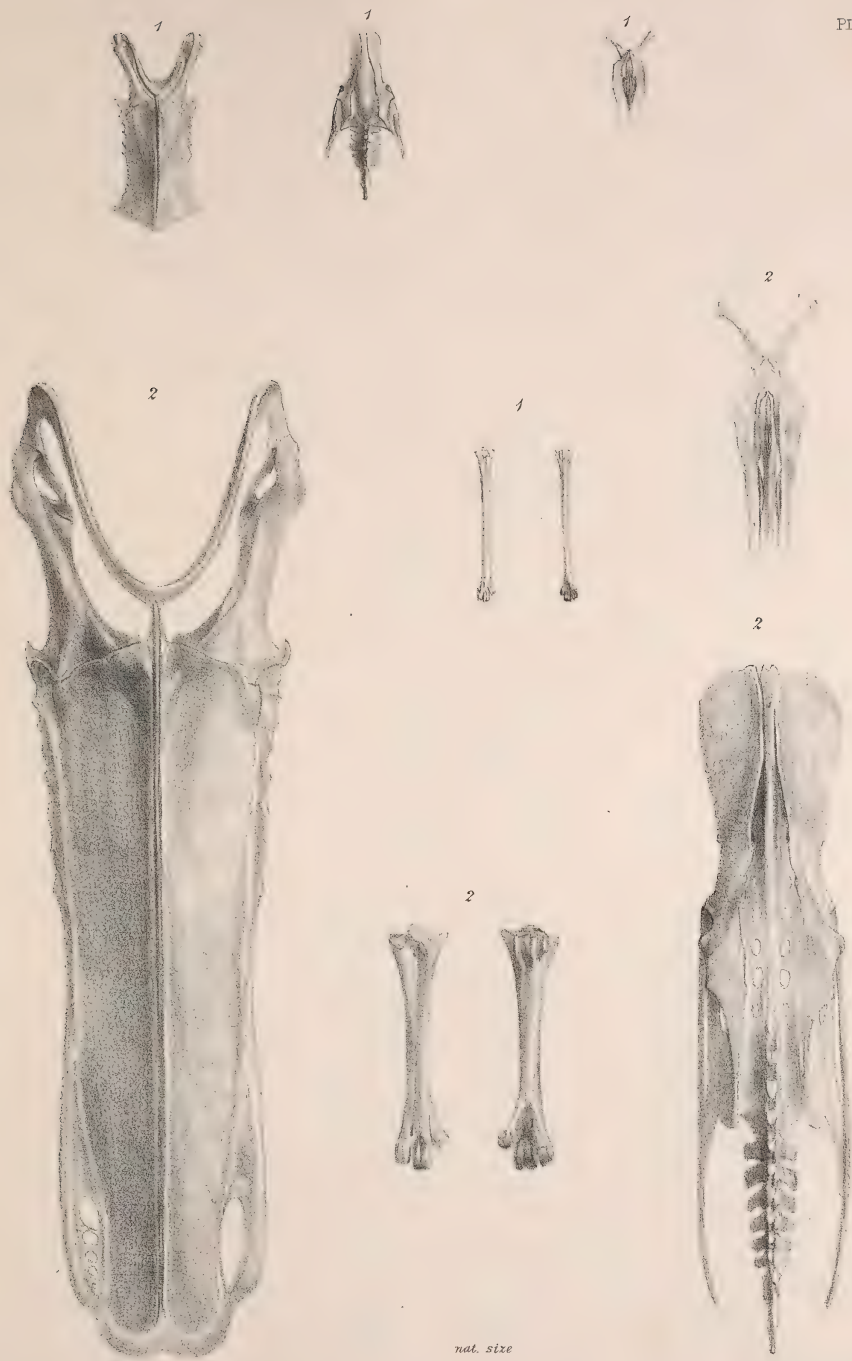
From Nature on Zinc by J. Erxleben

Drey & Sorel, Lith. 7 to the Queen

1. EUDYPTES. 2. ONOCROTALUS N. H.







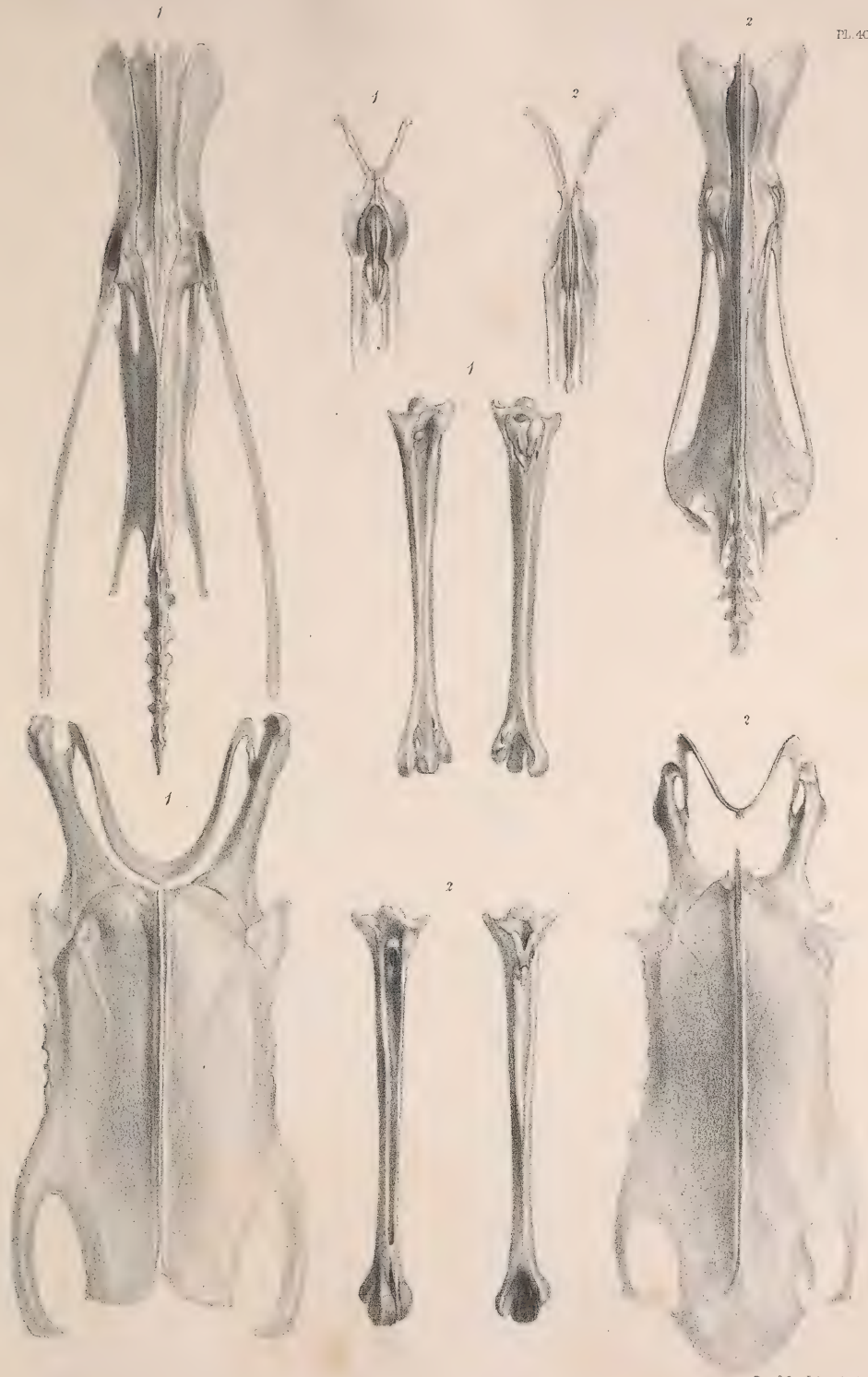
*From Nature on Zinc by J. Erxleben.*

*nat. size*

*Day & Son, Lithrs to the Queen.*

1. THALSSIDROMA. 2. URIA TROILE.



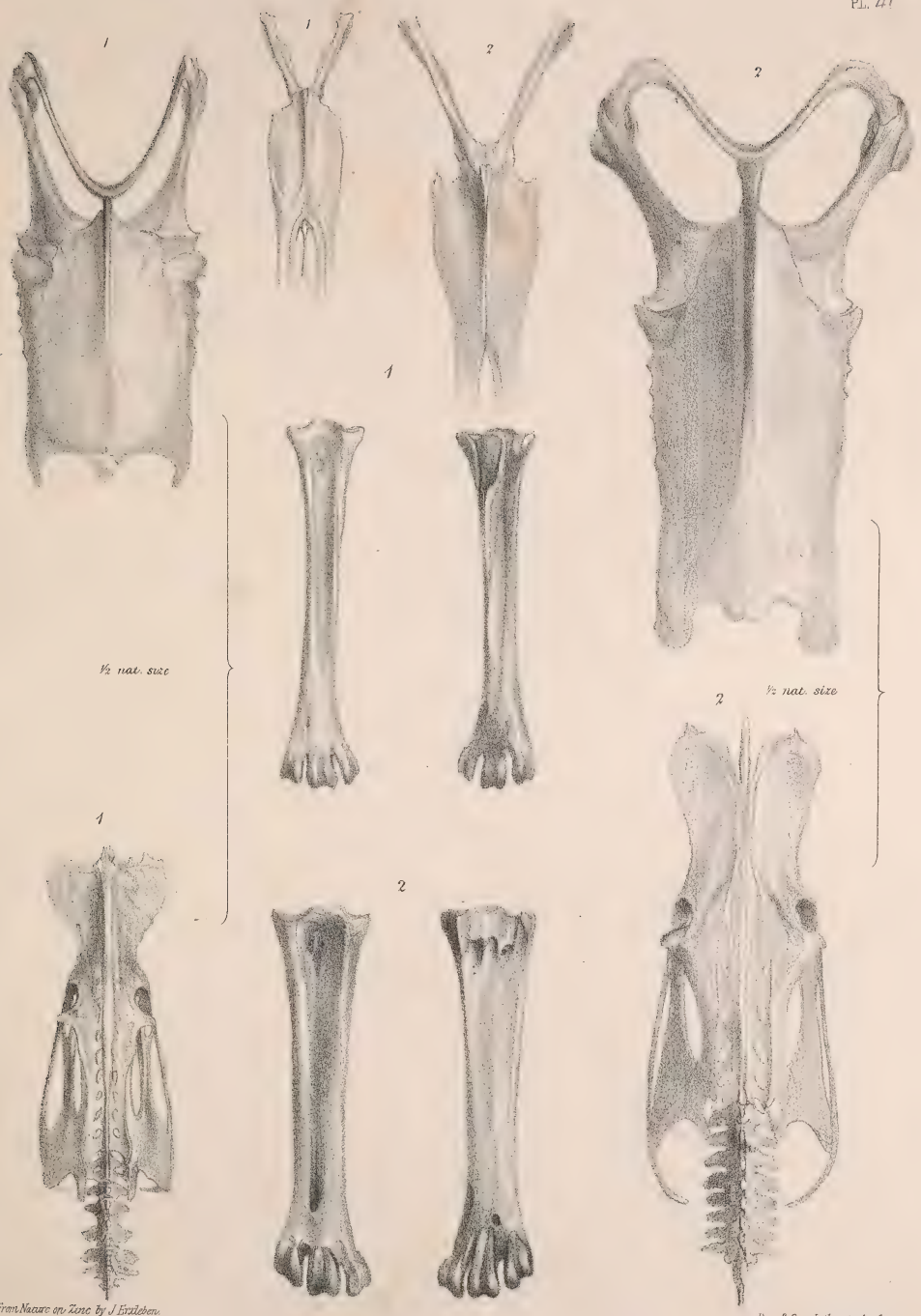


*From Nature on Zinc by J. Erskine.*

*Dry & Son, Litho to the Queen.*

1. PODICEPS CRISTATUS. 2. COLYMBUS SEPTENTRIONALIS.





1/2 nat. size

1/2 nat. size

From Nauro on Zenc by J. Hitzler.

Day & Son litho<sup>d</sup> to the Queen

GRACULUS CRISTATUS. 2. SULA BASSANA.













१९५१०





SMITHSONIAN INSTITUTION LIBRARIES



3 9088 00804 1527