

1.3(1.3); St Paul USA 2.3(2.1); San Antonio USA 2.4(1.2); San Diego WAP USA 1.5(1.5); Sao Paulo Braz 4.5(4.4); Seoul Kor 2.3; Stuttgart Ge 2.7(2.6); Taipei Tai 1.1(1.1); Tashkent USSR 1.0(1.0); Tokyo Tama Jap 2.2(2.2); Toronto Can 3.6(3.5); Tucson RP USA 2.2(1.1); Vienna Aus 1.2(1.2); Whipsnade GB 2.4(2.4); Yokohama Jap 1.0(1.0); Yulee USA 3.6(3.6).

Total: 119.220.1(105.175) + in 73 collections.

Breeding loans from Asheboro (at NY Bronx); Cambridge (at Hilvarenbeek); Chester (at Whipsnade); Colorado (at St Paul); Marwell (at Chicago Br); Sacramento (at St Louis); St Louis (at Chicago BR, NY Bronx and NY Bronx SCS).
Studbook held: see List of studbooks and world registers.

*HARTMANN'S MOUNTAIN ZEBRA

Equus zebra hartmannae IUCN(V)

Amsterdam Ne 2.3(2.3); Atina It 1.1; Berlin E Ge 1.2(1.1); Berlin W Ge 1.2(1.2); Catskill USA 1.2(1.2); Dvur Kralove Cz 3.8(3.6); Glendale USA 1.0(1.0); Johannesburg SA 1.2(1.2); Kawasaki Jap 2.3(2.3); Lisbon Port 1.0; Los Angeles USA 1.2(0.1); Madison USA 1.4(1.4); Mallorca Sp 3.6; Marwell GB 3.11(3.11); Munich Ge 1.4(0.3); Paris PZ Fr 1.4(1.4); Prague Cz 1.2(0.2); Pretoria SA 1.1(1.0); San Diego WAP USA 6.17(6.17); Santo Domingo Dom 0.5; Taipei Tai 1.1(1.1); Wroclaw Pol 1.0(1.0).
Total: 34.80(26.62) in 22 collections.

No data 1987: Erfurt Ge 0.1(0.1); Usti Cz 4.12(4.5).

Breeding loan from Oberwil (at Herberstein Aus).

Studbook held: see List of studbooks and world registers.

*BAIRD'S TAPIR *Tapirus bairdi* IUCN(V)

Columbia USA 1.1(0.1); Los Angeles USA 3.2(2.2); Miami MZ USA (b); Morelia Mex 1.0; Mulhouse Fr 1.2(1.2); San Diego USA 3.2(2.1); Yokohama KNP Jap 1.0(1.0).

Total: 10.7(6.6) + in 7 collections.

No data 1987: Tuxtla Mex 2.1(1.0).

Breeding loan from Rotterdam (at Mulhouse).

Studbook held: see List of studbooks and world registers.

*MALAYAN TAPIR *Tapirus indicus* IUCN(E)

Aalborg Den 1.1(0.1); Amsterdam Ne 1.2(0.1); Antwerp Bel 1.2(1.1); Bangkok Thai 4.4; Bekesbourne GB 2.2(1.0); Berlin W Ge 1.1; Chicago Br USA 1.1(0.1); Chiangmai Thai 1.2; Cincinnati USA 1.1(1.1); Copenhagen Den 1.2(1.2); Detroit USA 1.0; Dortmund Ge 1.3(1.2); Dresden Ge 1.1(1.1); Fukuoka Jap 2.1(2.1); Heidelberg Ge 1.1(1.1); Ito Jap 1.1(1.1); Jakarta Indon 4.4; Katowice Pol 1.0; Kolmarden Swed 0.1; Kuala Lumpur Mal 3.4(3.4); Marwell GB 1.1(1.1); Memphis USA 1.3(1.3); Milwaukee USA 1.1(1.0); Minneapolis USA 1.1(1.1); Mulhouse Fr (b); Munich Ge 1.1(1.1); Nagoya Jap 1.1(1.1); NY Bronx USA 3.3(2.2); Nuremberg Ge 1.2(1.2); Osaka Jap 0.1(0.1); Ostrava Cz 1.0; Philadelphia USA 1.1(1.1); Poznan Pol 1.1; Prague Cz 1.1(1.1); Pretoria SA 1.1(1.1); Rangoon Burma 1.0; Rome It 1.0;

Rotterdam Ne 0.3(0.3); St Louis USA 2.2(1.1); San Diego USA 1.1(1.0); San Diego WAP USA 1.0(1.0); Sao Paulo Braz 0.2(0.1); Sapporo Jap 1.0(1.0); Seoul Kor 1.0; Shizuoka Jap 2.2(1.1); Singapore 1.5(0.2); Stuttgart Ge 1.2(1.2); Taipei Tai 0.1; Tokyo Tama Jap 2.2(2.2); Toronto Can 2.2(2.2); Twycross GB 1.1(1.1); Vienna Aus 1.1(0.1); Washington NZP USA 1.1(1.1); Yokohama Jap 1.1(1.0).

Total: 64.78(38.49) + in 54 collections.

Breeding loans from Aalborg (at Kolmarden); Antwerp (at Marwell and Mulhouse); Arnhem (at Amsterdam); Berlin W and Dortmund (at Heidelberg); Colorado (at Chicago Br); Copenhagen (at Aalborg); Heidelberg (at Berlin W); London ZSL (at Rotterdam); Milwaukee (at Toronto); Minnesota (at Washington NZP); Monroe (at Detroit); Philadelphia (at Cincinnati); Prague (at Ostrava); Rotterdam (at Antwerp, Mulhouse and Philadelphia); St Louis (at Chicago Br, Milwaukee and NY Bronx).

Studbook held: see List of studbooks and world registers.

*MOUNTAIN or WOOLLY TAPIR *Tapirus pinchaque* IUCN(V)

Los Angeles USA 2.3(1.3); Oklahoma USA 1.1(1.1); San Diego USA 2.0(2.0); Stuttgart Ge 1.1.

Total: 6.5(4.4) in 4 collections.

*INDIAN RHINOCEROS *Rhinoceros unicornis* IUCN(E)

Amsterdam Ne 1.0(1.0); Basle Switz 1.2(1.2); Berlin E Ge 1.1(1.0); Berlin W Ge 1.1(1.1); Bhubaneswar Ind 1.1(1.1); Calcutta Ind 2.1(1.0); Chiangmai Thai 1.1; Cologne Ge 1.1(1.1); Dallas USA 1.0; Delhi Ind 2.0; Dvur Kralove Cz 1.1(1.1); Hamburg Ge 1.1(1.1); Kanpur Ind 2.1(2.1); Los Angeles USA 2.2(1.1); Madras Ind 1.0; Milwaukee USA 1.0; Mysore Ind 1.1.2(1.1.2); Nagoya Jap 1.1(1.0); NY Bronx USA 3.3(3.1); Oklahoma USA 1.1(0.1); Philadelphia USA 2.1(1.1); Planckendael Bel 3.2(2.2); Rangoon Burma 1.1; Rotterdam Ne 1.0(1.0); San Diego USA 1.0(1.0); San Diego WAP USA 3.3(3.3); Sao Paulo Braz 1.0(1.0); Seoul Kor 1.0; Stuttgart Ge 3.1(3.1); Tokyo Tama Jap 1.1; Toronto Can 1.1(1.1); Washington NZP USA 1.0(1.0); Whipsnade GB 2.1(2.1); Yokohama KNP Jap 1.1(1.1).

Total: 48.31.2(34.22.2) in 34 collections.

Breeding loans from Amsterdam (at Whipsnade); Oklahoma (at NY Bronx); NY Bronx (at Oklahoma); San Diego (at Washington NZP); Stuttgart (at Rotterdam); Washington NZP (at Oklahoma and NY Bronx); Whipsnade (at Planckendael).

Studbook held: see List of studbooks and world registers.

*SUMATRAN RHINOCEROS *Dicerorhinus sumatrensis* IUCN(E)

Bekesbourne GB 1.0; Jakarta Indon 1.0.

Total: 2.0 in 2 collections.

Studbook held: see List of studbooks and world registers.

SOUTHERN WHITE or SQUARE-LIPPED RHINOCEROS *Ceratotherium s. simum*

Total: 166.203.2(63.64) in 126 collections.

***NORTHERN WHITE or SQUARE-LIPPED RHINOCEROS** *Ceratotherium s. cottoni* IUCN(E)

Dvur Kralove Cz 4.6(1.2); Frejus Fr 1.0; Rabat Maroc 1.1(1.1); Wroclaw Pol 1.1.

Total: 7.8(2.3) in 4 collections.

Species total: 173.211.2(65.67) in 130 collections.

Studbook held: see List of studbooks and world registers.

***BLACK RHINOCEROS** *Diceros bicornis* IUCN(E)

Alma-Ata USSR 1.1(1.0); Atlanta USA 1.1; Bekesbourne GB 3.3(3.1); Berlin W Ge 2.4(1.2); Chester GB 2.1(2.1); Chicago Br USA 2.2(2.1); Chicago LP USA 1.2(1.2); Cincinnati USA 3.3(2.2); Colorado USA 1.1; Columbus USA 1.0; Dallas USA 0.2; Delhi Ind 1.2(0.1); Denver USA 2.2(2.2); Detroit USA 1.1(1.1); Dvur Kralove Cz 4.5(4.3); Frankfurt Ge 1.0(1.0); Garden City USA 1.1; Hiroshima Jap 2.3(1.2); Kansas USA 0.1(0.1); Kuala Lumpur Mal 1.0(1.0); Leipzig Ge 1.0; Lisbon Port 1.0; London ZSL GB 0.1; Los Angeles USA 3.3(2.2); Magdeburg Ge 2.2(1.1); Miami MZ USA (b); Mysore Ind 2.3.5(2.3.5); Nagoya Jap 1.2(1.2); Oklahoma USA 0.1; Osaka Jap 1.1(1.1); Ramat-Gan Is 1.0; Rome It 0.1(0.1); St Louis USA 1.3(0.2); San Antonio USA 1.2(0.2); San Diego USA 1.1(1.0); San Diego WAP USA 2.2(2.1); San Francisco USA 1.2(0.1); Sao Leopoldo Braz 0.1(0.1); Sydney Austral 1.2(1.1); Taipei Tai 1.1; Vienna Aus 1.0; Whipsnade GB 1.1; Wichita USA 1.1(1.1); Zurich Switz 2.3(1.1).
Total: 55.68.5(36.40.5) + in 44 collections.

Breeding loans from Boston (at Miami MZ); Cincinnati (at Chicago LP and San Diego WAP); Denver (at Kansas); Detroit (at Miami MZ, Oklahoma, and St Louis); London ZSL (at Chester and Marwell); Oklahoma (at Detroit); Perth (at Sydney); San Francisco (at Chicago LP); Whipsnade (at Chester).

Studbook held: see List of studbooks and world registers.

ARTIODACTYLA

***PYGMY HOG** *Sus salvanus* IUCN(E)
Catskill USA 0.1.

Breeding loan from NY Bronx (at Catskill).

***JARVAN WARTY PIG** *Sus verrucosus* IUCN(V)†

Surabaya Indon 4.4.3.

†not listed on questionnaire.

***BABIRUSA** *Babyrusa babyrussa* IUCN(V)
Antwerp Bel 6.9; Berlin W Ge 2.2; Copenhagen Den 1.1; Frankfurt Ge 1.2; Jakarta Indon 3.3(2.2); Jersey GB 2.2; Leipzig Ge 1.1; Los Angeles USA 1.1; NY Bronx USA 2.1; Nuremberg Ge 1.1; Rotterdam Ne 2.4; Stuttgart Ge 4.3(3.2); Surabaya Indon 17.14.12(0.1.5).

Total: 43.44.12 in 13 collections; most are presumed captive bred—see Key 6.

Breeding loans from Antwerp (at Copenhagen, Jersey and Rotterdam); Bekesbourne (at Antwerp); Rotterdam (at Jersey); Stuttgart (at Berlin W and Frankfurt).

Studbook held: see List of studbooks and world registers.

***PYGMY HIPPOPOTAMUS** *Choeropsis liberiensis* IUCN(V)

Aalborg Den 1.2(0.1); Adelaide Austral 1.3(1.3); Amsterdam Ne 0.1; Antwerp Bel 1.2(1.1); Arnhem Ne 2.2(2.2); Atina It 1.1; Barcelona Sp 3.1; Basle Switz 2.2(2.2); Baton Rouge USA 1.2(1.2); Berlin E Ge 1.3(0.2); Berlin W Ge 2.2(2.2); Boston USA 1.1(1.1); Bratislava Cz 1.1(1.1); Bristol GB 0.1; Brownsville USA 2.4(1.3); Chicago Br USA 1.1(0.1); Chicago LP USA 1.2(1.2); Cleveland USA 1.2(0.1); Columbus USA 1.1(1.1); Dallas USA 1.2(0.1); Debrecen Hun 0.1; Duisburg Ge 2.3(0.1); Dvur Kralove Cz 2.3(2.3); Edinburgh GB 1.1(1.1); Edmonton Can 0.1(0.1); Gdansk Pol 1.1(1.1); Halle Ge 1.2(1.2); Hanover Ge 0.1; Honolulu USA 1.1(1.1); Jackson USA 1.1(1.1); Jakarta Indon 1.0(1.0); Jihlava Cz 0.1(0.1); Johannesburg SA 1.4(1.4); Kaliningrad USSR 2.3(2.3); Kaunas USSR 1.2(1.2); Krefeld Ge 1.1(1.1); Kuala Lumpur Mal 0.3; Leipzig Ge 1.1(1.1); London ZSL GB 0.1(0.1); Madrid Sp 1.1; Marwell GB 1.1(1.1); Melbourne Austral 2.2(2.2); Miami MZ USA (b); Monrovia Lib 1.2; Morelia Mex 1.1(0.1); Munich Ge 2.2(2.2); Munster Ge 2.1(2.1); Nagoya Jap 1.1(1.1); NY Bronx USA 2.4(2.2); Nuremberg Ge 1.1(1.1); Paris PZ Fr 0.1; Poznan Pol 2.3(1.3); Prague Cz 1.1(1.1); Pretoria SA 1.2(1.2); Rangoon Burm 2.0; Rome It 2.1(2.0); Rostov USSR 1.1(1.0); Rotterdam Ne 1.2(1.2); St Louis USA 1.2(1.2); Salt Lake USA 1.2(1.2); San Antonio USA 0.2(0.2); San Diego USA 1.3(1.2); San Diego WAP USA 1.2(1.2); San Francisco USA 1.1(1.1); San Jose USA 0.1(0.1); Seoul Kor 1.1; Singapore 1.2(0.1); Stuttgart Ge 2.1(2.1); Sydney Austral 1.4(1.4); Taipei Tai 1.2(1.2); Tokyo Ueno Jap 2.1(0.1); Toronto Can 1.1(1.1); Tucson RP USA 1.1(1.1); Washington NZP USA 1.4(0.4); Whipsnade GB 1.4(1.4); Wroclaw Pol 0.1(0.1); Zurich Switz 1.2(1.1).

Total: 82.131(59.102) + in 77 collections.

No data 1987: Erfurt Ge 1.1(1.1); Usti Cz 1.2(1.2).

Breeding loans from Bristol (at Whipsnade); Catskill (at NY Bronx); Chicago Br (at San Diego); Melbourne (at Adelaide); London (at Marwell); NY Bronx (at Catskill); Philadelphia (at Tucson RP).

Studbook held: see List of studbooks and world registers.

***VICUGNA** *Lama vicugna* IUCN(V)

Amsterdam Ne 5.2; Antwerp Bel 5.1; Berlin W Ge 5.1; Chiba Jap 1.0; Frankfurt Ge 2.1; Halle Ge 1.0; Hanover Ge 1.3(1.2); Kuwait 0.1; Lima Peru 15.14(0.2); London ZSL GB 3.2; Marwell GB 1.1; Munich Ge 2.2; Nagoya Jap 1.2; Paris Men Fr 1.0; Planckendael Bel 2.3; Pretoria SA 2.1; Santa Cruz Bol 0.2(0.0); Stuttgart Ge 1.1; Yokohama KNP Jap 1.1; Zurich Switz 3.6.

Total: 52.44 in 20 collections; most are presumed captive bred—see Key 6.