

Author index

Single and joint authors quoted in the text are listed in full. In the case of multiple-author publications, only the principal author is cited. Authors of general references are not listed here. Numbers in **bold** type indicate a full reference source.

- ABDEL-WAHAB, M. F., 236, 251
 Abolarin, M. O., 71, 84
 Ackers, J. P., 51, 54
 Ackert, J., 408, 410
 Adams, D. B., 96, 106, 417, 421
 Adamson, M. L., 368, 386, 408, 410
 Adler, S., 76, 84
 Affa'a, F., 153, 154
 Agatsuma, T., 232, 233, 243, 244, 251
 Aggarwal, A., 468, 486
 Agosin, M., 361, 364
 Agrawal, M., 186, 200
 Ahne, Y. K., 228, 233
 Aikawa, M., 110, 111, 113, 115–17, 123
 Albach, R. A., 26, 40, 40
 Al-Baldawi, F. A., 326, 344
 Albaret, J.-L., 153, 154
 Albright, J. F., 460, 486
 Albright, J. W., 460, 486
 Aldritt, S. M., 54, 54, 56
 Alexander, J., 471, 486
 Aley, S., 38, 40
 Alicata, J., 414, 422
 Allison, F. R., 279, 279
 Allsop, C. E., 334, 346
 Allsop, R., 72, 84
 Almond, N. M., 481, 489
 Alter, H., 376, 386
 Altman, P. L., 17, 21
 Amin, O. M., 451, 457, 457
 Amini, F., 395, 396
 Anders, R. F., 470, 487, 484, 490
 Andersen, K., 303, 305–8, 318, 323, 326
 Anderson, R. C., 368, 386, 395, 396, 397, 410, 423, 434
 Anderson, R. M., 1, 8, 418, 420
 Andreassen, J., 323, 344
 Andres, P., 423, 435
 Andrews, R. H., 321, 344
 Andreychuk, R., 32, 41
 Ansari, J. A., 431, 434
 Anwar, M., 94, 106
 Anya, A. O., 266, 267, 378–9, 386
 Apt, W., 100, 106
 Arai, H. P., 321–3, 344, 349, 351, 364
 Arambulo, P. V., 332, 344
 Archer, D. M., 305, 307, 319
 Arme, C., 264, 274, 277, 279, 281, 293, 316–17, 317, 351, 360, 362, 364, 365, 509, 511–12, 523
 Asanji, M. F., 211, 216
 Asaola, S. O., 451, 457
 Asatova, M. M., 100, 107
 Asch, H. L., 264, 269, 273
 Ash, C., 466, 486
 Ash, L. R., 427, 434
 Ashford, R. W., 65, 72, 73, 77, 85
 Atkinson, B. G., 269, 273
 Atkinson, H. J., 414, 421, 438, 441, 445, 447, 449
 Atkinson, K. H., 269, 273
 Atwell, R. B., 425, 434
 Audousset, J. C., 209, 216
 August, J. R., 100, 106
 Averner, M., 37, 40
 Avron, B., 38, 40
 Awakura, T., 511, 523
 Ayala, F. J., 72, 84
 Ayala, S. C., 135, 136
 Aziz, M. A., 428, 434
 BABERO, B. B., 196, 198
 Badie, A., 215, 216
 Baer, J., 1, 8, 164, 172, 277, 278
 Bahr, J. M., 362, 364
 Bailey, H. H., 175, 176, 220, 233
 Bailey, T. M., 394, 395
 Baker, J. R., 1, 7, 8, 64, 84, 97, 107, 491, 493, 495–500, 500, 502, 503, 512, 517, 519–21, 526
 Baker, M. R., 399, 400, 410
 Bakker-Grunwald, T., 38, 40
 Baldwin, C. I., 352, 364, 365
 Ball, P. A. J., 418, 421
 Ball, S. J., 96, 108
 Banerjee, D., 519, 523
 Banwell, J. G., 420, 421
 Barbet, A. F., 484, 490
 Barker, D. C., 76, 84
 Barnish, G., 31, 40
 Barrett, A. J., 40, 40
 Barrett, J., 7, 8, 263, 266, 269, 274, 351–3, 355–6, 358, 361–2, 364, 365, 382, 386, 438–48, 448, 449, 450
 Barrett, N. J., 334, 340, 342, 348, 512, 523
 Barry, J. D., 59, 84, 467, 486
 Barry, T. A., 211, 216
 Bartgis, I. L., 40, 40
 Basch, N., 238, 251, 251
 Basch, P. F., 191, 198, 238, 251, 272, 274, 505–8, 523
 Battisti, G., 395, 395
 Bauer, O. N., 451, 457
 Beale, G. H., 110, 117, 123
 Beals, C., 310, 317
 Beaman, M. H., 472, 487
 Beames, C. G., 446, 449
 Bean, C. W., 317, 317
 Beard, T. C., 337, 344
 Beattie, C. P., 100, 106
 Beaver, P. C., 231, 233
 Becker, C. D., 175, 177
 Bednarz, S., 197, 198
 Beesley, J. E., 96, 106, 121, 124
 Befus, A. D., 11, 20, 476, 488
 Béguin, F., 283, 293
 Behm, C., 7, 8, 39, 40, 263, 268, 274, 353, 356–8, 364, 365, 438, 449
 Behnke, J. M., 417, 421, 466–7, 481–2, 486
 Beis, I., 356, 363
 Bell, E. J., 186, 198, 306, 317, 504, 523
 Belosevic, M., 391, 393, 395
 Bemrick, W. J., 52, 54
 Benchamol, M., 45, 46, 54
 Benjamin, E., 460, 486
 Bennet, E.-M., 7, 8, 263, 274
 Bennett, C. E., 211, 216
 Bennett, G. F., 138, 142
 Berendt, A. R., 470, 487
 Bergamin-Sessen, M. J. M., 191, 199
 Bergquist, R., 484, 490
 Berntzen, A. K., 504, 511, 519, 521, 523
 Bertram, D. S., 423–4, 434
 Bessonov, A. S., 393, 395
 Beveridge, I., 340, 344
 Beverley-Burton, M., 406, 410
 Beyers, T. J., 40, 40
 Bhatti, I., 266, 274
 Bianco, A. E., 428–30, 434
 Bibby, M. C., 257, 261
 Bieniarz, J., 148, 152, 155
 Bijl, A. C., 519, 523
 Bilqees, F. M., 451, 456, 458
 Bird, A. F., 368, 373–6, 382–3, 386
 Bird, P. A., 368, 386
 Blair, D., 256, 261, 310, 318
 Bloom, B. R., 484, 490
 Blum, J. J., 81, 83, 84, 119, 121, 123
 Bobek, L. A., 189, 201
 Boeck, W. D., 491, 500
 Bogdan, V. V., 352, 366
 Booden, T., 26, 40
 Boray, J. C., 206, 207, 216
 Borcham, P. F. L., 51, 54, 342, 344, 425, 434
 Borcham, R. E., 342, 344
 Boulanger, D., 484, 490
 Bourgat, R., 261, 261
 Bouve, E. C., 44, 54
 Bovet, J., 172, 172
 Bowers, E. A., 204, 217
 Bowman, I. B. R., 81, 84
 Bradshaw, H., 429, 436
 Brassard, P., 259, 261
 Braten, T., 322, 344
 Bratney, J., 453, 458
 Bray, R. S., 76, 84
 Brener, Z., 73, 84
 Bresciani, J., 160, 172
 Brindley, P. J., 475, 488
 Britten, V., 73, 85
 Brockleman, W. Y., 213, 216
 Brooks, D. R., 261, 261
 Brown, A. F., 452, 458
 Bruce, J. I., 236, 245, 252, 269, 274
 Bruce-Chwatt, L. J., 110, 123, 129, 136
 Brun, R., 497, 500
 Brunet, P. J. C., 184, 199

528 | *Author index*

- Bryant, C., 7, 8, 38, 40, 263, 268, 274, 321, 334, 346, 352, 353–9, 363, 364, 365, 438, 442, 449
- Buckley, J. J., 261, 261
- Budziakowski, M. E., 451, 458
- Bueding, E., 264, 266, 274, 442, 449
- Bundesen, P. G., 211, 216
- Bundy, D. A. P., 236, 252, 389–90, 395
- Bunnag, D., 213, 216, 230, 233
- Burchard, G. D., 29, 42
- Bürger, A.-J., 327–8, 345
- Buron, I. De., 451–2, 458
- Burton, P. R., 59, 84, 183, 199
- Burton, R. S., 204, 217
- Bush, A. O., 8
- Butcher, G. A., 468, 487, 498, 501
- Buttner, A., 196, 199
- Buzzell, G. R., 208, 216
- Bychowsky, B. E., 159, 164, 172
- Byrom, W., 142, 142
- CABLE, J., 167, 172
- Cable, R. M., 192, 198, 199, 227, 234, 504, 523
- Cachon, J., 60, 84
- Cachon, M., 60, 84
- Cain, G. D., 352, 366, 441, 449
- Calentine, R. L., 311, 317
- Callaway, C. S., 89, 108
- Campbell, E. W., 310, 317
- Campbell, W. C., 211, 216, 388, 390–3, 395, 427, 434
- Canning, E. U., 94, 98, 102, 103, 106
- Cannon, C. E., 322, 345
- Cannon, I. T., 37, 42
- Capron, A., 473–4, 484, 488
- Capron, M., 473, 488
- Carter, R., 33, 40, 114, 123, 132, 136
- Casado, N., 513, 517, 523
- Caulley, M., 1, 7, 8
- Cerami, A., 81, 84
- Chadee, K., 393, 395
- Chadwick, V. S., 11, 20
- Challier, A., 72, 84
- Chance, M. C., 79, 80, 84
- Chandra, S. S., 212, 217
- Chang, K. P., 76, 84
- Chang, S. L., 494, 500
- Chapman, G., 18, 20
- Chappell, L. H., 258, 259, 262, 263, 264, 268, 269, 274, 296–7, 300, 451–2, 458
- Chase, T. M., 100, 106
- Chatelain, R., 371, 487
- Chayen, A., 38, 40
- Cheah, K. S., 359, 364
- Chen, M. G., 236, 239, 244, 252
- Chen, S. N., 448, 449
- Cheng, T. C., 19, 20, 181, 190, 191, 199, 204, 217
- Chernin, E., 138, 142, 190, 199
- Childs, J. E., 103, 106
- Ching, H. L., 226, 229, 233
- Chitwood, B. G., 408, 410
- Chowdhury, M. N. H., 100, 106
- Chowdhury, N., 351, 364
- Chubb, J. C., 164, 172, 259, 261, 306, 317, 451–2, 458
- Chung, P. R., 41
- CIBA, 64, 76, 84
- Clark, I. A., 470–1, 487
- Clark, S., 426, 428, 435
- Clark, T. B., 62, 84
- Clarke, A. J., 382, 386, 403, 410
- Clarkson, A. B., 67, 84
- Cleese, D. F., 408, 410
- Clegg, J. A., 184, 199, 209, 218, 242, 252, 505, 508, 525
- Coatney, G. R., 131, 132, 136
- Coetzee, M., 129, 136
- Cohen, S., 470, 487
- Coil, W. H., 185, 188, 199, 341, 345
- Coleman, G. S., 496, 500
- Coles, G. C., 263, 266, 268, 269, 274
- Collins, W. E., 131, 132, 136
- Comely, J. C. W., 443, 449
- Conn, D. B., 345, 345
- Cook, G. C., 98, 106, 327, 331, 345
- Cooper, E. S., 389–90, 395
- Combes, C., 159, 161, 163, 172, 219–21, 233
- Conder, G. A., 427, 421
- Conradt, U., 284, 293
- Coombs, G. H., 7, 8, 40, 52, 54, 80, 84
- Corbel, J. C., 91, 106
- Cordingley, J. S., 184, 199, 269, 276
- Corliss, J. O., 144, 149, 155
- Cornford, E. M., 266, 268, 274
- Cornish, J., 394, 395
- Cort, W. W., 251, 252
- Coughe, W. G., 342, 345
- Coulson, P. S., 474, 488
- Coura, J. R., 73, 75, 84
- Cox, F. E. G., 1, 8, 17, 18, 20, 89, 106, 132, 133, 136, 453, 458, 471, 487
- Cox, G. N., 438–9, 446, 449
- Craig, P. S., 334, 337, 345, 346
- Crofton, H. D., 1, 8, 371, 384–5, 386, 482, 489
- Croll, N. A., 114, 115, 125, 438, 449
- Crompton, D. W. T., 11, 15, 17, 20, 322, 345, 403–4, 410, 418, 420, 421, 451, 453–6, 458
- Cruz, H., 191, 199
- Culbertson, C. G., 32, 40, 494, 501
- Current, W. I., 472, 487
- Curtis, M. A., 313, 318
- D'ALESSANDRO, P. A., 66, 67, 85, 466, 486
- D'Alessandro, A., 75, 84
- Dailey, M. D., 300, 301
- Damian, R. T., 474, 488
- Danford, D. W., 175, 176
- Dang, P. T., 428, 434
- Daniel, W. A., 47, 55
- Dar, F. K., 334, 345
- Darling, T. N., 84, 84
- Das, P. K., 427, 434
- Davenport, T. R. B., 448, 449
- Davey, K. G., 381–3, 386
- Davies, C., 504–5, 523
- Davies, K. P., 446, 449
- Davies, Z., 336, 346, 513, 525
- Davydov, V. G., 304–5, 318
- Dawes, B., 206, 211, 217
- De Carneri, I., 186, 200
- De Jong-Brink, M., 191, 199
- De Meillon, B., 129, 136
- De Souza, W., 46, 55
- Deane, L. M., 75, 84
- Dehendorf, T. L., 407, 410
- Debell, J. T., 376, 386
- Deeb, B. J., 103, 106
- Deeler, A. M., 245, 252
- Dehority, B. A., 154, 155
- Del Castillo, J., 376, 386
- Delviquier, B. L. J., 145, 155
- Den Hollander, N., 51, 54, 468, 486
- Denham, D. A., 427–8, 430, 434, 481, 490, 521–2, 523
- Denison, J., 208, 218
- Desowitz, R. S., 31, 40
- Despommier, D., 19, 20
- Desser, S. S., 137, 138, 142
- Dhillon, A. P., 20
- Diamond, L. S., 40, 41, 494–6, 501
- Dick, T. A., 307, 318, 390–1, 393, 395, 453, 459
- DiConza, J. J., 191, 198
- Dissanayake, S., 427, 430, 435
- Dittmer, D. S., 17, 18, 20
- Dixon, K. E., 209, 210, 217, 218
- Dobrovolskij, A. A., 219, 220, 222, 233
- Dobrovolny, C., 408, 410
- Dogiel, V. A., 154, 155
- Doherty, M. L., 332, 345
- Dollfus, R. Ph., 175, 176, 503, 523
- Dönges, J., 195, 199, 255–7, 261
- Dorfman, S., 151, 155
- Dorsman, W., 519–20, 523
- Dougherty, E. C., 491, 501
- Douvres, F. W., 403, 410, 517, 519–21, 524
- Dow, C., 211, 217
- Drbohlav, J., 491, 500
- Dronen, N. O., 223, 234
- Dubey, J. P., 100–6, 106, 107
- Dubinina, M. N., 313, 318
- Dubois, G., 159, 172, 259, 261
- Dubovskaya, A. Ya., 349, 363
- Dubremetz, J. J., 96, 106
- Duhlińska, D., 89, 107
- Duke, B. O. L., 428–9, 434, 435
- Dunagan, T. T., 453–5, 458
- Duncan, J. L., 418, 421
- Dunn, J., 284, 293
- Dunn, T. S., 444, 445, 449
- Dunne, D. W., 263, 274, 474–5, 488
- Durborow, R. M., 296, 300
- Durette-Desset, M.-C., 417, 421
- Dusanic, D. G., 59, 84
- Dutt, S. C., 261, 261
- Dvorak, J. A., 73, 84, 326, 345
- EARLE, C. A., 9, 263, 266, 268, 274
- Earnest, M. P., 326–7, 331–2, 345
- Ebrahimzadeh, A., 183, 184, 199
- Eckert, J., 52, 54, 282, 293, 334, 336, 339, 344, 345
- Edeson, J. F. B., 426, 435
- Edmonds, C. J., 20, 457, 458
- Eduardo, S. L., 186, 199
- Edungbola, L. D., 428–9, 435
- Edwards, A. J., 480, 489
- Ehrenford, F. A., 417, 421
- Eichenlaub-Ritter, U., 153, 155
- Eklu-Natey, D. T., 240, 252
- El-Gindy, M. S., 248, 252
- El Mofty, M. M., 8, 147–9, 152, 155, 496, 501
- Ellis, D. S., 68, 69, 84
- Elsdon-Dew, R., 26, 40
- Else, K. J., 482, 489
- Engelbrecht, F., 523, 524
- Englund, P. T., 7, 8
- Erasmus, D. A., 178, 180, 183, 185, 191, 192, 198, 199, 237, 252, 254–6, 261
- Erlandsen, S. L., 51, 52, 55
- Esch, G. W., 1, 8, 299, 300, 341, 345
- Etges, F. J., 176, 177
- Euzéby, J., 425, 435
- Evans, D., 64, 85, 509, 511, 524
- Evans, D. A., 496–7, 501
- Evered, D., 426, 428, 435
- Ewing, M. S., 150, 155
- FABIYI, J. P., 211, 217
- Fairbairn, D., 359, 361–2, 367, 382, 387, 438–9, 441, 449
- Fairlamb, A. H., 52, 55, 80, 81, 82, 84, 84, 85, 119, 120, 124
- Fairweather, I., 263, 271–3, 274, 284–5, 288–9, 293, 294, 296–7, 301, 362, 364, 364, 365
- Falkmer, S., 284, 294
- Fallis, M., 138, 142
- Fan, P. C., 332, 345, 427, 435
- Farthing, M. J. G., 51, 55
- Faulkner, C. T., 409, 410
- Faust, E. C., 508, 524
- Fenglin, W., 518, 524
- Fernando, M. A., 420, 421
- Ferretti, G., 326, 345
- Finkelman, F. D., 481, 489
- Fischer, H., 296, 300
- Fisher, J., 266, 268, 274
- Fitzgerald, P. R., 59, 55
- Fitzsimmons, W. M., 417, 421
- Fleck, D. G., 103, 107
- Fletcher, C., 427, 434
- Fletcher, M., 243, 252
- Flisser, A., 326–7, 331, 345
- Flockart, H. A., 286, 294, 317, 318, 321, 345, 354, 356, 364, 390, 393, 395, 430, 435
- Fontaine, R. E., 407, 410

- Foreyt, W. J., 206, 218, 233, 234
 Forrester, A. T. T., 389, 395
 Forrester, D. J., 417, 421
 Forthal, D. N., 97, 107
 Fraga de Azevedo, J., 420, 421
 Frandsen, F., 191, 200
 Franke, E. D., 522, 524
 Franson, J. C., 42, 55
 Franz, M., 423, 435
 Frayha, G. J., 8, 263, 274, 352, 361, 363, 364, 365
 Freeman, R. F. H., 185, 196, 199
 Freeman, R. S., 258, 261, 293, 294, 296, 300, 341, 345
 Frenkel, J. K., 100–4, 107
 Fried, B., 185, 199, 228, 234, 504, 507, 508, 524, 525
 Friedhoff, K. T., 140, 142
 Fripp, P., 246, 252
 Fry, G. F., 409, 410
 Fry, M., 121, 122, 124
 Fuentes Zambrano, J. L., 164, 173
 Fujino, T., 183, 199, 504, 524
 Fulton, C., 34, 40
 Furlong, S. T., 269, 270, 275
- GADASI, I., 40, 40
 Gajadhar, A. A., 96, 107
 Gajdusek, D. C., 332, 345
 Gallagher, R. B., 466, 486
 Galliard, H., 398, 410
 Galvin, T. J., 402, 410
 Gamble, H. R., 416, 421, 484, 490
 Ganapati, P. N., 191, 200
 Gannon, J. T., 494–5, 501
 Gardiner, C. H., 105, 107
 Gardiner, M. A., 406, 410
 Garkavi, B. L., 393, 396
 Garnham, P. C. C., 110, 124, 126, 129, 131–3, 135, 136
 Gassmann, M., 453, 458
 Gaten, E., 259, 261
 Gaumont R., 496, 501
 Gause, G. F., 10, 20
 Geiman, Q. S., 31, 40
 Gelderman, A. H., 40, 40
 Gemmell, M. A., 334, 337–8, 345
 Georgi, M., 278, 279
 Gerzeli, G., 175, 176, 185, 199
 Gettinby, G., 142, 142
 Giannini, S. H., 66, 67, 85
 Gibbons, L. M., 368, 386
 Gibson, D. I., 306, 308, 317
 Gibson, W. C., 71, 72, 85
 Gilbertson, D. E., 240, 252
 Giles, N., 316, 318
 Gill, H. S., 483, 489
 Gilles, H. M., 418, 420, 421
 Gillespie, S. H., 404–5, 410
 Gillet, J. D., 129, 136
 Gillies, M. T., 129, 136
 Gillin, F. D., 494–6, 501
 Ginsburg, H., 119, 121, 123
 Glaven, J., 475, 488
 Goad, I. J., 82, 83, 85
 Goldman, M., 37, 42, 101, 107
 Goldschmidt, R., 375, 386
- Goldsmid, J. M., 418, 421
 Golvan, Y. J., 451–2, 458
 Gönner, R., 237, 252
 Good, M. F., 484, 490
 Goodwin, L. G., 427, 435
 Gottlieb, D. S., 30, 41
 Grabda-Kazubska, B., 219–22, 234, 453, 458
 Gradus, M. S., 49, 55
 Grant, W. C., 183, 199
 Granzer, M., 419, 421
 Gratton, K. A. F., 448, 449
 Graves, P. M., 114, 123
 Green, S. J., 471, 487
 Greene, B. M., 426, 428–9, 435
 Gregory, R. D., 417, 421
 Gregurić, J., 49, 55
 Grecnis, R. K., 482, 489
 Greve, E., 105, 107
 Grisdale, D., 32, 41
 Grove, D. I., 397–8, 410
 Guberlet, J. E., 506, 524
 Guest, S. S., 97, 107
 Guilford, H. G., 185, 199
 Gulden, W. J. I. van der, 408, 410
 Gupta, R. C., 269, 274
 Gupta, S. P., 185, 201, 269, 274
 Gustafsson, M. K. S., 9, 272, 274, 284, 294, 362, 364, 365
 Gutteridge, W. E. A., 7, 8, 73, 85
- HAAS, W., 213, 217, 419, 421
 Habe, S., 232, 233
 Hagen, P., 474, 488
 Hajdú, E., 261, 366
 Hale, O. M., 151, 155
 Hal, S. M., 100, 107
 Halton, D. W., 7, 8, 12, 21, 159, 162, 166, 167, 171, 172, 173, 175, 176, 176, 178, 180, 181, 184, 185, 187, 189, 194, 199, 201, 205, 217, 236, 242, 253, 263–6, 269–72, 274, 284, 294, 362, 364, 365, 507, 526
 Halvorsen, O., 279, 279, 305–6, 318
 Hamilton, J. D., 15, 16, 20
 Hammond, D. M., 94, 107
 Hanna, R. E. B., 324–5, 346
 Hanselman, K., 359, 362, 359
 Hargis, W. J., 164, 173
 Harinasuta, C., 494, 501
 Harinasuta, T., 213, 216, 230, 233, 494, 501
 Harnett, W., 430, 435
 Harpur, R. P., 385, 386
 Harrington, G. W., 32, 41
 Harris, B. G., 361, 365
 Harris, J. E., 371, 384–5, 386
 Harris, K. H., 181, 199
 Harrison, L. J. S., 327, 345
 Harry, O. G., 91, 102, 103, 107
 Hart, D. T., 76, 80, 85
 Hart, J. K., 361, 365
 Hartley, R. H., 118, 125
 Hashemi-Fesharki, R., 142, 143
 Haslewood, G. A. D., 17, 20, 21, 211, 288
 Hass, W., 213, 217
 Hathaway, R. P., 185, 199
- Haughan, P. A., 83, 84, 85
 Hausfater, G., 163, 174
 Hawking, F., 6, 8, 115, 116, 124, 431, 435
 Healer, J., 445, 449
 Heath, D. D., 292, 295, 309, 319, 333–4, 340, 345, 348, 361, 365, 517, 524
 Heatley, W., 258, 259, 261
 Henderson, D. J., 324–5, 346
 Hendrickson, J., 305, 318
 Hendrix, S. S., 175, 176
 Herbert, I. V., 105, 107
 Herlevich, J. C., 185, 199
 Hermatin, P., 112, 124
 Hersh, S. M., 48, 55
 Hewitt, R., 133, 136
 Heydorn, A. O., 105, 107
 Heyneman, D., 323, 348, 477, 488
 Hickman, J. L., 326, 346
 Higo, H., 232, 234
 Hildreth, M. B., 284, 294
 Hill, B., 361, 365
 Hillyer, G. V., 212, 217, 426, 435
 Hine, P. M., 298, 300
 Hink, L. W., 382, 386
 Hirai, H., 430–1, 436
 Hirai, K., 310, 318
 Hird, D. W., 326, 329, 346
 Hirumi, H., 497, 501
 Ho, Y. H., 186, 200
 Hoare, C. A., 25, 41, 61, 85
 Hockley, D. J., 179, 191, 200, 238, 252
 Holder, A. A., 469, 487
 Holliman, R. E., 100, 104, 107
 Hollingdale, M. R., 500, 501
 Holloway, H. L., 259, 261
 Holmes, J. C., 453, 459
 Holmes, K. K., 47, 56
 Holmes, S. D., 288–9, 294
 Homewood, C. A., 117, 119, 124
 Hominick, W. M., 397, 410
 Hommel, M., 76, 85
 Honigberg, B. M., 45, 46, 47, 49, 56
 Hoole, D., 317, 319
 Hopkins, C. A., 15, 21, 284, 295, 303, 305, 312–17, 318, 322–3, 346
 Hopkins, D. R., 432, 434, 435
 Horsburgh, R. C. R., 426, 435
 Horton, R. J., 334, 336, 339, 346
 Howard, R. J., 470, 487
 Howell, M. J., 19, 21, 204, 205, 217, 476, 488
 Huang, C. T., 309, 318
 Huang, T.-Y., 266, 268, 274
 Hudson, L., 73, 85, 497, 501
 Huehner, M. K., 175, 177
 Huff, C. G., 135, 136
 Huffines, W. J., 299, 300
 Huffman, J. E., 228, 234
 Hughes, D. L., 206, 217
 Hughes, H. P. A., 100, 107, 468, 476, 487
 Humbert, R., 506, 523
 Hungate, R. E., 154, 155
 Hunninen, A. V., 324–5, 346
- Hussain, R., 479, 489
 Hutchinson, G. W., 430, 435
 Hutchinson, W. M., 100, 107, 108, 342, 346
 Hutchison, W. F., 439, 449
 Hyman, L., 164, 173
 Hynes, H. B. N., 453, 457, 458
- IFEDIBA, T., 499, 501
 Irie, Y., 242, 253
 Irwin, S. W. B., 210, 217, 508–9, 524, 525
 Ishii, A. I., 351, 365
 Ishii, Y., 232, 234
 Ishikura, H., 406–7, 410
 Ito, A., 476, 488
 Ivans, V., 97, 105, 107
 Ivey, M. H., 382, 386
 Iwanczuk, I., 50, 55
- JACKSON, H. C., 5, 9, 167, 174
 Jackson, T. F. H., 29, 41
 Jacobs, L., 100, 100
 Jacobsen, N. A., 361, 365
 Jahn, T. L., 44, 55
 James, B. L., 196, 200, 204, 217
 James, C., 245, 253
 James, S. L., 475, 488
 Jamieson, B. G. M., 196, 200
 Jamuar, M. P., 378, 386
 Janicki, C. von, 278, 279
 Janssens, P. A., 211, 216, 361, 364
 Jarrett, E. E. E., 479, 489
 Jarroll, E. L., 52, 54, 55
 Jeffers, T. K., 97, 107
 Jeffrey, G. M., 468, 487
 Jeffs, S. A., 360–1, 365
 Jenkins, D. C., 479, 489
 Jenkins, T., 379, 386
 Jenni, I., 85, 85, 497, 500
 Jennings, J. B., 160, 164, 173, 181, 200, 270, 274
 Jensen, J. B., 491, 493, 496–8, 500, 501, 502
 Jensen, M. D., 199, 124
 Jentoft, V. L., 517, 525
 Jeong, K., 505, 526
 Jírovec, O., 45, 55
 Johnson, S., 408, 411
 Johnston, C. F., 266, 275
 Johnston, B. R., 204, 205, 217
 Johnston, L. R., 11, 21
 Johri, G. N., 185, 200
 Johri, L. N., 167, 171, 185, 200
 Jones, D. G., 445, 449
 Jones, M. F., 519, 526
 Jones, S. R. M., 497, 501
 Jordan, A. M., 73, 85
 Jordan, P., 236, 239, 244–6, 252
 Jourdan, J., 240–2, 252
 Joy, J. E., 175, 176, 299, 301
 Joyeux, C., 164, 172, 277, 278
 Juliano, C., 45, 55
 Juniper, K., 150, 155
- KABATA, Z., 164, 173
 Kabnick, K. S., 50, 55
 Kagan, I. G., 240, 246, 248, 252
 Kamegai, S., 172, 174

530 | *Author index*

- Kamiya, M., 339, 341, 346
 Kan, S. P., 390, 396
 Kandhaswami, D. W. W., 185, 200
 Kannagara, D. W. W., 259, 261, 504, 524
 Kanwar, Y., 186, 200
 Kapur, J., 439, 447, 449
 Karam, M., 523, 525
 Kasprzak, W., 51, 52, 55
 Kassai, T., 368, 386, 412–13, 421
 Kassim, O., 240, 252
 Kawamoto, F., 513, 524
 Kawanaka, M., 268, 275
 Kazura, J. W., 426, 428, 436
 Kean, B. H., 32, 41
 Kearn, G. C., 167, 172, 173
 Kegley, L. M., 352, 365
 Keister, D. B., 40, 41
 Kemp, D. J., 53, 55, 118, 124, 470, 487
 Kendall, S. B., 206, 207, 209, 211, 217
 Kennedy, C. R., 1, 8, 21, 258, 261, 298, 301, 310–12, 316–17, 318, 320, 342, 346
 Kennedy, M. W., 445, 449, 478, 489
 Kerr, T., 313, 317, 318
 Keymer, A., 323, 346
 Keystone, J. S., 32, 41
 Khan, A., 451, 458
 Khatoon, N., 451, 456, 458
 Khokhlova, I. G., 451, 458
 Kierszenbaum, F., 466, 486
 Kilejian, A., 360, 365
 Kilgore, M. W., 439, 449
 Killick-Kendrick, R., 77, 80, 85, 86, 126, 132, 136
 Kimm, C. W., 213, 217, 390, 396
 King, C. A., 93, 94, 95, 107
 King, C. L., 478, 489
 King, D., 451–2, 458
 Kino, H., 321, 346
 Kirk, R., 309, 318
 Kirschenbaum, M. B., 251, 252
 Kitajima, E. W., 183, 200
 Klein, J., 80, 85, 460, 486
 Knapp, S. E., 233, 234
 Knell, A. J., 110, 124
 Knight, D. H., 425, 435
 Knight, R. L., 51, 55
 Knowles, R. J., 246, 253
 Knox, D. P., 445, 449
 Köberle, F., 75, 85
 Kobler, D., 40, 40
 Kocan, K. M., 150, 155
 Köhler, P., 263, 266, 267, 275, 359, 362, 365, 442, 443, 449
 Kohlhausen, S., 321, 346, 353–4, 365
 Köhlmann, F. W., 159, 173, 185, 200
 Kœie, M., 191, 200
 Komiya, Y., 213, 217
 Komuniecki, P. R., 441, 449
 Komuniecki, R., 441, 449
 Körting, W., 358–9, 362, 365
 Köster, B., 187, 200
 Kovalenko, F. P., 339, 346
 Kozicka, J., 506, 525
 Kreier, J. P., 1, 7, 8, 31, 41, 89, 107, 93, 94, 95, 107, 110, 117, 124, 126, 131, 132, 136, 140, 143
 Kretschmer, R. R., 26, 41
 Kristoffersen, R., 229, 234
 Krull, W. H., 214, 217, 220, 223, 234
 Kühlow, F., 304–5, 318
 Kulo, S. D., 261, 261
 Kumar, V., 245, 252
 Kumaratilake, L. M., 286, 294, 336, 346
 Kuntz, R. E., 185, 188, 199, 213, 217
 Kuperman, B. I., 304–5, 318
 Kurimoto, H., 402, 410
 Kusel, J. R., 240, 252
 Kuttler, K. L., 140, 143
 Kumazawa, H., 324, 346, 362, 365
 Kwa, B. H., 305, 310, 318
 Kwee, H. G., 407, 410
 LA RUE, G. R., 181, 198, 200
 Lackie, A. M., 210, 217, 457, 458
 Lackie, J. M., 451, 458
 Lainson, R., 76, 85
 Lal, B. M., 185, 200
 Land, J. van der, 279, 279
 Lankester, M. W., 211, 217
 Lascano, E. F., 335, 346
 Latter, V. S., 96, 106
 Laurie, J. S., 279, 279
 Lawrence, R. A., 478, 479
 Lawrence, S. B., 517, 524
 Lawson, J. D., 334, 337, 345
 Layrisse, M., 420, 421
 Le Ray, D., 73, 85
 Lebedev, B. I., 164, 173
 Lee, D. L., 52, 55, 254, 261, 266, 275, 368, 386, 378, 386, 414, 421, 438, 441, 445, 447, 449, 454, 458
 Lee, T. D. G., 258, 261
 Leiby, D. A., 321, 333, 347, 354, 366
 Leid, R. W., 477, 488
 Leland, S. E., 519–20, 524
 Lengy, J., 420, 421
 Leno, G. H., 259, 261
 Leskowitz, S., 460, 486
 Lester, R. J. G., 258, 261
 Lethbridge, R. C., 291, 294, 323, 346
 Levi, M. H., 323, 346
 Levine, N. D., 41, 44, 55, 88, 94, 97, 105, 107, 144, 155, 368, 386
 Lewis, F. A., 238, 252
 Lewis, R., 407, 410
 Lewis, S. M., 11, 17, 21
 Li, G. Q., 207, 218
 Lichtenfels, J. R., 390, 393, 396, 416, 421
 Liew, F. Y., 471, 487
 Lightowlers, M. W., 334, 346, 478, 489
 Lindmark, D. G., 46, 55
 Lincicome, D. R., 3, 8
 Linke, H. A. B., 494–5, 501
 Linstead, D., 52, 55, 495, 501
 Lips, M., 132, 136
 Llewellyn, J., 159, 163–5, 173, 185, 196, 200
 Lloyd, G. M., 263, 275
 Lloyd, S., 482, 489
 Lo, H.-S., 40, 41
 Locksley, R. M., 471, 487
 Long, P. L., 94, 97, 107, 138, 139, 143, 420, 421
 Löser, E., 288, 294
 Lou, Z. J., 446, 449
 Luaces, A. L., 40, 41
 Lubinsky, G., 339, 346
 Lühe, M., 192, 200
 Lumsden, R. D., 178, 200, 283–4, 294, 359, 365, 454, 459
 Lumsden, W. H. R., 64, 85
 Lushbaugh, W. B., 24, 41
 Lussier, P. E., 360, 365
 Lutich, S., 211, 217
 Lymbery, A. J., 51, 56, 287, 295, 334, 336, 348
 Lynch, J. E., 279, 279
 Lyness, R. A. W., 175, 176
 Lynn, D. H., 144, 156
 Lyons, K. M., 167, 173, 279, 279
 Lýsek, H., 402, 410
 Lysenko, A. Ya., 100, 107
 McADAM, K. W. P., 466, 386
 McCaig, M. L. O., 312–13, 318
 McCallum, H. I., 150, 155
 McCormick, J. H., 299, 301
 McCosker, P. J., 139, 140, 143
 McCullough, J. S., 296–7, 301
 McDaniel, J. S., 220, 233, 229, 234
 McDonald, E. M., 423, 435
 McGhee, R. B., 133, 135, 136
 McGregor, I., 110, 117, 125
 McIlroy, S. G., 208, 218
 MacInnis, A. J., 1, 3, 8, 361, 366
 McKay, D. M., 181, 200, 272, 275, 323, 346, 363, 365
 MacKenzie, C., 93, 94, 107
 MacKenzie, N. E., 443, 446, 449
 McKerrow, J. H., 406–7, 411, 445, 447, 450
 McLaren, D. J., 200, 236, 238, 242, 252, 474, 484, 488
 McLaughlin, J., 39, 41
 McLeod, J. A., 277, 280, 293, 295
 McManus, D. P., 7, 8, 12, 21, 268, 275, 277, 280, 281–2, 284–8, 295, 310, 317, 318, 321–34, 336, 342, 346, 328, 347, 349–64, 365, 366, 509, 511, 514–15, 526
 Macnae, W., 161, 173
 Macpherson, C. N. L., 337, 346, 513, 516, 524
 McReynolds, L. A., 430, 435
 McVicar, A., 285, 295
 Ma, L., 185, 200
 Mackiewicz, J. S., 159, 164, 173, 310–11, 318
 Macy, R. W., 504, 523
 Madan, E., 299, 301
 Madge, D. S., 12, 21
 Madhavi, R., 185–7, 200, 260, 261
 Magee, R. M., 272, 273, 274
 Maggenti, A. R., 368, 382, 383, 386
 Maizels, R. M., 478, 489
 Majewska, A. C., 50, 51, 55
 Mak, J. W., 426–7, 430–1, 435, 437
 Maki, J., 445, 448, 450
 Malakatis, G. M., 519–20, 524
 Malavasi, A., 91, 92, 107
 Malberg, G., 164, 173
 Male, D., 460, 486
 Malek, E. A., 246–9, 252
 Malone, J. B., 206, 217, 427, 435
 Malloch, C. L., 32, 41
 Manga-Gonzalez, M. Y., 215, 218
 Manwell, R. D., 133, 135, 136
 Mansfield, J. M., 466, 486
 Mapes, C. R., 214, 215, 217
 Marchalonis, J. J., 466, 486
 Marchand, B., 456, 458
 Marchiondo, A. A., 310, 318
 Marciano-Čabral, F., 32, 34, 35, 41
 Maren, T. H., 327, 435
 Margolis, L., 164, 173
 Marr, J. J., 84, 85
 Marsden, P. D., 73, 85
 Marshall, J., 455, 459
 Martínez, A. J., 24, 32, 36, 37, 41
 Martínez-Gómez, F., 96, 107
 Marti, H. P., 481, 489
 Martínez-Palomo, A., 26, 29, 41
 Martio, G., 151, 155
 Mascaro-Lazcano, M. C., 517, 525
 Marx, R. A., 185, 201
 Matossian, R. M., 334, 346
 Matskási, I., 361, 366
 Mattern, C. F. T., 47, 55
 Matthews, B. E., 368, 374, 386, 438, 449
 Matthews, H. M., 49, 55
 Matthews, R. A., 203, 204, 218, 229, 235
 Maule, A. G., 171, 173, 272, 275
 May, R. M., 1, 8
 Meakins, R. H., 314, 316, 318
 Measures, L. N., 395, 396
 Medley, G. F., 418, 420
 Meerovitch, E., 31, 41, 392, 396
 Melhorn, H., 1, 8, 46, 55, 64, 85, 105, 107, 140, 141, 143, 175, 176, 292, 294
 Mehlotra, R. K., 34, 41
 Meis, J. F. G. M., 110, 119, 124
 Meloni, B. P., 52, 56, 326, 346
 Melton, M. L., 101, 108
 Mercer, E. H., 209, 218, 454, 458
 Mercer, J. G., 268, 275

- Mettrick, D. F., 12, 24, 15, 16, 21, 210, 218, 322, 345, 353–6, 366
- Meuleman, E. A., 191, 200
- Meyer, E. A., 51, 52, 55, 98, 107, 495, 501
- Meyer, F., 269, 275, 362, 366
- Miles, M. A., 72, 75, 85
- Milinski, M., 316, 318
- Milleman, R. E., 233, 234
- Miller, D. M., 453–5, 458, 483, 489
- Miller, H. C., 76, 85
- Miller, H. R. P., 479–81, 489
- Miller, J. H., 24, 41
- Miller, L. H., 30, 41
- Miller, P. G. G., 80, 85
- Miller, T. A., 418, 420, 421, 483, 490
- Mims, C. A., 460, 486
- Mirelman, D. M., 26, 41
- Miretski, O. Y., 163, 173
- Mirovsky, P., 498, 501
- Mitchell, G. F., 468–9, 477, 485, 490
- Mitchell, J. S., 505–6, 524
- Miyaji, S., 341, 347
- Miyazaki, I., 232, 234
- Moczon, T., 268, 275
- Molyneux, D. H., 64, 72, 73, 76, 85
- Mong, F. N., 512, 525
- Mongardi, D., 138, 143
- Monks, S., 451, 458
- Monné, L., 379, 386
- Mons, B., 499, 501
- Moore, D. V., 451–2, 458
- Moore, J. G., 409, 410
- Moorhouse, D. E., 342, 347
- Moriki, T., 362, 365
- Morris, G. P., 162, 173
- Morrison, W. I., 483, 490
- Mössinger, J., 423, 435, 517, 519, 421, 423, 525
- Morseth, D. J., 335, 347
- Morton, J., 12, 21
- Morzaria, T. P., 139, 142, 143
- Mott, K. E., 236, 239, 244, 252
- Mudry, D. R., 300, 301
- Mueller, J. F., 5, 308, 310, 319, 511, 525
- Müller, M., 39, 41, 52, 53, 55, 56
- Muller, R., 426, 432–3, 435
- Munn, E. A., 484, 490
- Murgolo, N. J., 81, 86
- Murphy, W. A., 283, 294
- Murray, M., 479, 489
- Murrell, K. D., 393–4, 396, 481, 484, 489
- Mutafova, T., 393–4, 396
- NADAKAVUKAREN, M. J., 264, 275
- Nadler, S. A., 44, 55, 402, 410
- Namiki, M., 406–7, 410
- Nanduri, J., 426, 428, 436
- Náquira, C., 361, 366
- Nash, T. E., 468, 486
- Nasir, P., 164, 173, 256, 261
- Nawa, Y., 480, 489
- Nayar, J. K., 521–2, 525
- Neal, R. A., 23, 25, 40
- Neame, K. D., 117, 119, 123
- Neff, R. J., 37, 41
- Neilson, J. T. McL., 417, 428, 421
- Nelson, G. S., 337, 347, 426, 428–9, 436
- Nice, N. G., 208, 209, 218
- Nicholas, C., 238, 252
- Nicholas, W. L., 451, 453–7, 459
- Nickol, B. B., 451, 453, 456, 458
- Niewiadomska, K., 506, 525
- Nigon, V., 378, 386
- Nilova, V. K., 147, 155
- Noble, E. R., 1, 8
- Nogueira, N., 73, 75, 86
- Noireau, F., 428, 436
- Nolan, M., 409, 411
- Nollen, P. M., 185, 187, 200, 264, 275, 275, 286, 294
- North, M. J., 7, 8, 40, 52, 54, 80, 84
- Nozais, J. P., 245, 252
- Nussenzweig, R. S., 126, 136, 469, 484, 487
- Nussenzweig, V., 126, 136, 469, 484, 487
- Nussler, A., 469, 487
- Nutman, T. B., 478–9, 489
- ODENING, K., 5, 8, 310, 319
- Ogbe, M. G., 216, 218, 246, 252
- Ogbogu, V. C., 423–4, 436
- Ogbourne, C. P., 418, 421
- Ogilvie, B. M., 415, 421, 480, 490
- Ohman, C., 266, 275
- Olivier, L., 248–59, 252
- Ollerenshaw, C. B., 206, 208, 218
- Olsen, R. E., 453, 459
- Olson, L. J., 405, 411
- Olson, R. E., 506, 525
- Ong, S.-J., 513, 525
- Onori, E., 126, 129, 137
- Onwuliri, C. O. E., 444, 450
- Opperdoes, F. R., 80, 81, 82, 86
- Ormerod, W. E., 66, 69, 71, 86
- Orpin, C. G., 352, 366
- Orr, T. S. C., 312–15, 317, 319
- Oshima, T., 407, 411
- Osuna-Carrillo, A., 517, 525
- Ottesen, E. A., 402, 409, 410, 426–8, 436, 479, 489
- Ouazana, R., 383, 386
- Ovchinnikov, L. P., 149, 156
- Overdule, J. P., 101, 107
- Ovington, K. S., 357, 366
- Owen, R. H., 451–2, 458
- Owen, R. L., 50, 56, 472, 487
- Owen, R. W., 316, 317
- PAGE, F. C., 32, 33, 34, 41
- Palmieri, J. R., 258, 262, 426–7, 436, 504, 525
- Palmer, K. L., 498, 501
- Palumbo, N. E., 522, 526
- Pampori, N. A., 355, 366
- Pan, S., 240, 241, 252
- Pantelouris, E. M., 206, 218
- Panter, H. C., 408, 411
- Pappas, P. W., 263, 275, 277, 279, 281, 293, 321, 347, 351–2, 360, 362, 364, 366
- Parker, R. D., 361, 366
- Parshad, V. R., 455, 459
- Pasvol, G., 112, 124
- Paterson, W. B., 51, 56
- Patterson, D. J., 144, 145, 155
- Paul, A. A., 159, 163, 165, 174
- Pauley, G. B., 175, 177
- Pawlowski, Z. S., 51, 52, 55, 308, 319, 326–7, 335, 347, 390, 396, 407, 410
- Pearce, E. J., 475, 488
- Peattie, D. A., 50, 55
- Penlington, B., 316, 319
- Pennycuik, L., 1, 8, 313–14, 319
- Perlmann, H., 470, 487
- Perry, R. N., 382, 386, 403, 410
- Peters, W., 76, 80, 86, 126, 132, 136, 284, 293
- Peterson, B. V., 428, 434
- Petitprez, A., 89, 108
- Petronijevic, T., 382, 387
- Petru, M., 45, 55
- Phares, C. K., 5, 8, 310, 319
- Philipp, M., 478, 489
- Phillipson, R. F., 474, 489
- Piesman, J., 140, 142, 143
- Piessens, W. F., 427, 430, 435, 436
- Pillon, L., 32, 41
- Pinder, M., 428, 426, 466, 486
- Pitelka, D. R., 89, 96, 108, 145, 155
- Pittilo, R. M., 96, 108
- Piva, N., 186, 200
- Plata, F., 74, 85
- Playfair, J. H. L., 471, 487
- Podesta, R. B., 11, 13, 20, 21, 357, 366, 453, 459
- Poiner, G. O., 368, 386
- Poljakova-Krusteva, O., 284, 294
- Pollard, D. A., 316, 319
- Poole, B. C., 307, 318
- Polydorou, K., 337, 347
- Ponnudurai, T., 498–9, 502
- Popiel, I., 238, 253
- Popjmanska, T., 293, 294
- Porchet, E., 89, 108
- Pounder, R. E., 12, 21
- Poynter, D., 483, 490
- Precious, W. Y., 438, 450
- Prensier, G., 118, 124
- Preston-Meek, C. M., 446, 450
- Preston, T. M., 58, 59, 87
- Price, H. E., 247–9, 253
- Prichard, R. K., 266, 267, 275
- Prillinger, L., 376, 386
- Pritchard, D. I., 418, 421, 446, 450
- Procnunier, W. S., 430–1, 436
- Puente, H. S., 248, 253
- Pugh, R. E., 342, 347
- Pullen, M. M., 326, 329, 346
- QUINN, T. C., 47, 56
- Quinnell, R. J., 417, 421
- RACTLIFFE, L. H., 189, 200
- Radulescu, S., 51, 55, 495, 501
- Raether, W., 140, 143
- Rahman, M. S., 353–7, 366
- Raikhel, A. S., 219, 222, 233
- Ramalingam, K., 185, 201
- Rao, K. H., 185, 191, 200
- Rao, L. S., 145, 155
- Rasheed, U., 361, 366
- Ratcliffe, H. L., 31, 40
- Ratcliffe, N. A., 460, 486
- Rau, M. E., 240, 241, 253
- Rausch, R. L., 334–5, 339, 348, 517, 525
- Ravdin, J., 24, 26, 41
- Read, C. P., 3, 8, 263, 264, 269, 273, 275, 323–3, 347, 360, 366
- Reed, N. D., 481, 489
- Rees, F. G., 225, 226, 234, 354–7, 262, 299, 300, 301
- Rees, M. J., 443, 446, 449
- Rees, W. J., 185, 201
- Reeves, R. E., 38, 42
- Reichenbach-Klinke, H.-H., 172, 174
- Reinemeyer, C. R., 417, 421
- Rémy, M.-F., 496, 501
- Rennison, B. D., 185, 201
- Renz, A., 423, 436
- Repetto, Y., 361, 364
- Reyes, P., 122, 124
- Rhine, W. D., 506, 523
- Riberu, W. A., 518, 521, 523, 525
- Richards, C. S., 37, 42, 243, 253
- Richards, K. S., 335, 347, 513, 525
- Richards, O. W., 12, 21
- Rice-Ficht, A. C., 184, 186, 201
- Rickard, M. D., 340, 347, 476, 485, 488, 489
- Riding, I., 383, 386
- Riek, R. F., 142, 143
- Rigby, D. W., 185, 201
- Rihet, P., 474, 488
- Riley, J. M., 427, 434
- Rim, H. J., 213, 218
- Rind, S., 251, 253
- Rishi, A. K., 328, 336, 347, 352, 366
- Ristic, M., 140, 143
- Rivera, F., 33, 42
- Roberts, J. A., 417, 421
- Roberts, L. S., 1, 8, 323–4, 347, 353, 355, 366, 512, 525
- Robertson, N. P., 352, 366
- Robinson, E. S., 451–2, 458
- Robinson, G., 182, 201
- Roche, M., 420, 421
- Rochet, M. J., 427, 434
- Rodger, F. C., 429, 430, 436
- Rødland, J. T., 296, 301
- Rodriguez-Caabeiro, F., 513, 523
- Rocelants, G. E., 466, 486
- Rogan, M. T., 523, 525
- Rogers, S. H., 264, 266, 275
- Rogers, W. P., 3, 8, 15, 21, 381–2, 387
- Rohde, K., 164, 174, 175, 176, 177, 181, 201, 278, 279, 285, 294

532 | *Author index*

- Roitt, I., 460, 486
 Rojkind, M., 37, 42
 Rollinson, D., 1, 8, 236, 243–5, 251, 253
 Rondanelli, E. G., 24, 32, 35, 36, 37, 42
 Rondelaud, D., 215, 216
 Rose, J. B., 98, 99, 108
 Rose, M. E., 471–2, 488
 Rosenthal, P. J., 123, 124
 Rothman, A. H., 178, 201
 Rothwell, T. L. W., 479, 489
 Roux, J., 427, 436
 Rowan, W. B., 189, 201
 Rowcliffe, S. A., 206, 218
 Rudziniska, M. A., 58, 86
 Russell, C. M., 190, 201
 Russell, D. G., 471, 486, 487
 Ruthmann, A., 153, 155
 Ryan, G. S., 228, 233
 Rybicka, K., 287, 294
 Rycke, P. H. De, 326, 347, 351, 364
- SACKS, D. L., 112, 125
 Sadek, I. A., 148, 153, 155
 Sadighian, A., 395, 396
 Sakaguchi, Y., 232, 234
 Sakamoto, T., 519, 521, 525
 Sakanari, J. A., 406–7, 411
 Sanders, E. P., 31, 42
 Sanderson, B. E., 480, 490
 Sandord, P. A., 12, 21
 Sano, M., 230, 235
 Sarwal, R., 439, 447, 450
 Sargeant, P. G., 26, 28, 29, 42
 Sasa, M., 425, 436
 Sato, H., 339, 341, 346
 Sautter, R. L., 407, 410
 Savigny, D. H., 406, 411
 Saville, D. H., 508–9, 525
 Sawyer, T. K., 523, 526
 Saz, H. J., 438, 440–2, 450
 Schad, G. A., 8, 394, 396, 418, 421, 421
 Schantz, P. M., 334–5, 347, 390, 394, 396, 404, 411
 Scheibel, L., 119, 120, 122, 124
 Schein, E., 140, 141, 143
 Schell, S. C., 164, 174, 190, 201, 219, 220, 234
 Schiller, E. L., 268, 275, 286, 294, 324, 347, 512, 525
 Schlegel, W., 232, 234
 Schlesinger, P., 24, 42
 Schmid, W. D., 1, 8
 Schmidt, G. D., 1, 8, 277, 279, 281, 294, 451–2, 459
 Schnier, M. S., 504, 525
 Schofield, C. J., 72, 73, 86
 Schofield, L., 469, 487
 Scholtz, E., 96, 97, 108, 115, 124
 Scholze, H., 40, 42
 Schroeder, L. L., 356, 366
 Schrével, J., 89, 90, 93, 108
 Schulte, F., 397, 411
 Schultz, M. G., 326–7, 329, 347
 Schulz-Key, H., 523, 525
 Schuster, F. L., 35, 42
- Schwabe, C. W., 334–5, 347
 Schwartz, B., 414, 422
 Scott, J. A., 423, 435
 Scott, J. A., 423, 435
 Seed, T. M., 110, 111, 115–17, 123, 133, 135, 136
 Seegar, W. S., 103, 106
 Self, J. T., 341, 345
 Selkirk, M. E., 446, 450
 Sell, S., 460, 486
 Sénaud, J., 96, 108
 Sepulveda, A. B., 26, 42
 Sergeeva, E. G., 306, 319
 Serrano, R., 38, 42
 Service, M. W., 427, 436
 Sevcova, M., 251, 253
 Sewell, M. M. H., 327, 345
 Shanta, C. S., 391, 396
 Sharp, G. J. E., 302–3, 305, 319
 Sheffield, H. G., 101, 108, 388, 396
 Shepherd, J. C., 342, 366
 Sher, A., 7, 8, 475, 485, 490
 Sherman, I. W., 119, 120, 124
 Shimazu, T., 504, 525
 Shiwaku, K., 5, 8, 310, 319
 Shorb, D. A., 324, 347
 Shore, J. H., 407, 410
 Short, R. B., 175, 177, 248, 253
 Silveria, M., 183, 199
 Silverman, P. H., 291, 294, 329–30, 347
 Simmons, J. E., 279, 279
 Simpkin, K. G., 265, 275
 Simpson, A. J. G., 236, 237, 243–5, 251, 253
 Simpson, S. R., 474, 488
 Sinden, R. E., 110, 113–15, 117, 118, 125
 Singh, B. B., 363, 366
 Singh, B. N., 35, 36, 42
 Singh, S. P., 444, 446, 450
 Singhvi, A., 408, 411
 Skryabina, E. S., 451, 458
 Slomianny, Ch., 118, 124
 Small, E. B., 144, 156
 Smirnov, L. P., 352, 366
 Smith, G., 206, 208, 218
 Smith, H. V., 98, 99, 108
 Smith, J. K., 341, 347
 Smith, J. W., 236, 253, 406–7, 411
 Smith, K., 81, 86
 Smith, M. A., 209, 218, 505, 525
 Smith, T. S., 105, 107, 484, 490
 Smithers, P. A., 17, 21
 Smithers, S. R., 242, 253, 473, 488
 Smyth, J. D., 3, 7, 8, 12, 21, 146–9, 152, 155, 159, 166, 167, 171, 174, 175, 177, 178, 180, 181, 184, 185, 187, 189, 194, 201, 211, 218, 219, 221–6, 234, 236, 240, 242, 253, 258–61, 261, 263–6, 269, 270, 276, 277, 280, 282, 284–92, 295, 306, 309, 310, 312–16, 316, 319, 321–3, 325, 333–6, 342, 344, 347, 349–64, 366, 367, 453, 459, 496, 501, 503–7, 509–17, 525
 Smyth, M. M., 31, 42, 146, 151, 156, 195, 196, 201, 219, 221–6, 234, 260, 261, 261, 286–7, 295, 337, 348, 453, 459
 Smythies, L. E., 475, 488
 Sohlenius, B., 397, 411
 Soloviev, M. M., 50, 56
 Sommerville, R. I., 377–8, 382, 387
 Sood, M. L., 439, 447, 449
 Sormani, S., 236, 245, 252
 Soulsby, E. J. L., 466, 482, 486, 489
 Soutar, R., 302, 319
 Southgate, B. A., 426–7, 436
 Southgate, V. R., 237, 245, 246, 253
 Specht, D., 342, 344, 348
 Specian, R. D., 284, 294
 Spindler, K.-D., 382, 387
 Sprent, J. F. A., 3, 8, 401, 411
 Srivastava, M., 185, 201
 Srivastava, H. D., 261, 261
 Srivastava, V. M. L., 439, 446, 450
 Stableford, L. T., 507–8, 524
 Stables, J. M., 258, 259, 262
 Stadnichenko, A. P., 191, 201
 Stadnyk, A. W., 415–16, 422
 Standen, O. D., 189, 201, 250, 252, 253
 Steinbüchel, A., 53, 56
 Stephen, L. E., 68, 86
 Sterry, P. R., 355–6, 366
 Stevens, C. E., 12, 13, 21
 Stewart, G. L., 338, 450
 Stirewalt, M. A., 236, 242, 253
 Stockdale, P. H. G., 96, 106
 Stokes, G. N., 299, 301
 Stoddart, R. C., 451, 459
 Stoll, N. R., 482, 490
 Stone, A. R., 368, 387
 Storey, D. M., 423–4, 436
 Streble, H., 159, 174
 Stretton, A. O. W., 376, 387
 Stringfellow, F., 519–20, 525
 Stromberg, B. E., 185, 199
 Stunkard, H. W., 181, 201, 227, 234, 504, 525
 Sucharit, S., 426–7, 436
 Sukhanova, K. M., 147, 155
 Sukhdeo, M. V. K., 210, 218
 Supavej, S., 426, 436
 Suswillo, R. R., 427, 436
 Suzuki, N., 243, 244, 251, 324, 346
 Swiderski, Z., 268, 265
 Sylk, S. R., 441, 450
 Szalai, A. J., 316–17, 319, 453, 459
- TADA, I., 232, 234
 Tait, A., 71, 72, 86, 112, 125
 Talamas-Rohana, P., 471, 487
 Taliaferro, W. H., 486
 Tamashiro, W. K., 522, 526
 Tanner, C. E., 390, 394, 396
 Tannich, E., 29, 42
- Taraschewski, H., 230, 234, 235
 Targett, G. A. T., 136, 470, 484, 487, 490
 Taylor, A. E. R., 64, 86, 412, 422, 491, 493–500, 502, 503, 512, 517, 519–21, 526
 Taylor, M., 317, 319
 Taylor, M. G., 251, 253, 484, 490
 Taylor, M. R., 404, 411
 Templeman, W., 279, 279
 Terasaki, K., 232, 235
 Terry, R. J., 242, 253, 473, 488
 Tesana, S., 213, 218
 Tesfa-Yohannes, T.-M., 327, 330, 348
 Therón, A., 240–2, 252
 Thompson, D. P., 268, 276
 Thompson, R. C. A., 51, 52, 56, 287, 293, 295, 334, 336, 338, 348, 353, 512, 526
 Thoney, D. A., 164, 173
 Threadgold, L. T., 182, 201, 283–5, 293, 295, 476, 488
 Threlfall, W., 228, 235
 Throm, R., 407, 410
 Thurston, J. P., 161, 174, 185, 201
 Tibayrenc, M., 72, 86
 Tielens, A. G. M., 211, 218, 266, 267, 276
 Tillotson, K. D., 496, 502
 Ting, I. P., 122, 125
 Tinsley, R. C., 5, 9, 163, 166–8, 172, 174
 Tkachuck, R. D., 310, 319
 Todd, J. R., 96, 108
 Todd, K. S., 96, 106
 Toledo, I., 352, 367
 Tomkins, S. J., 175, 176
 Torpier, G., 238, 253
 Torre-Blanco, A., 352, 367
 Townsley, P. M., 382, 387
 Townson, S., 523, 526
 Trager, W., 1, 7, 9, 497–8, 501, 502
 Tronchin, G., 92, 108
 Turner, C. M. R., 71, 72, 86, 467, 486
 Turner, R. M. B., 61, 86
 Turrens, J. F., 80, 82, 86
 Twohy, D. W., 76, 85, 415, 422
- UBELAKER, J. E., 288–9, 293, 295, 321–3, 348
 Ulmer, M. J., 190, 201
 Umezurike, G. M., 266, 276
 Underwood, H. T., 223, 235
 Ungar, B. L. P., 472, 487
 Upatham, E. S., 243, 253
 Urban, J. F., 517, 519–21, 524
 Uspenskaja, A. V., 149, 156
 USSR, 164, 174
- VAN DER PLOEG, L. H. T., 118, 125
 Van Meirvenne, N., 73, 86
 Van Oordt, B. E. P., 268, 275
 Van Thiel, P. H., 406, 411
 Von Bonsdorff, B., 307–8, 319

- Von Brand, Th., 17, 21, 82, 87, 269, 276, 351, 367, 439, 449
 Vaihela, B., 305, 318
 Van de Waa, E. A., 443, 450
 Vanderberg, J. P., 499, 503
 Vanover, L., 441–2, 449
 Vivier, E., 89, 108
 Vávra, J., 89, 106
 Verhave, J. P., 110, 119, 124
 Vickerman, K., 37, 42, 58–60, 62, 64, 69–70, 86, 87
 Voge, M., 504, 526
- WACK, M., 360, 367
 Wade, S. E., 405–6, 411
 Wagland, B. M., 417, 422
 Waite, J. H., 184, 186–8, 201
 Wajdi, N., 190, 201, 241, 253
 Wakelin, D., 323, 348, 389, 396, 466, 471, 479, 481, 484, 486, 488, 490
 Walker, E., 269, 274
 Walkey, M., 311, 316, 319
 Wallace, F. G., 61, 62, 85
 Wallet, M., 204, 218
 Walliker, D., 110, 117, 118, 123
 Walsh, R. D., 89, 108
 Walzer, P. D., 151, 156
 Wang, C. C., 40, 41, 100, 108
 Wang, E. J., 40, 42, 54, 56
 Wang, W., 506, 526
 Ward, C. W., 359, 362, 367
 Ward, K. A., 382, 387
 Ward, P. F. V., 263, 276, 438, 450
- Ward, S. M., 300, 301
 Wardle, R. A., 277, 280, 293, 295
 Warhurst, D. C., 32, 36, 42
 Warren, K. S., 418, 422, 466, 475, 486, 489
 Warton, A., 45, 56
 Watson, N., 278, 279
 Watts, S. J., 432, 436
 Webb, R. A., 360, 367
 Webbe, G., 236, 239, 244, 245, 253, 334, 339, 348
 Weber, J. L., 110, 119, 123, 125
 Weekes, P. J., 316, 319
 Weinbach, E. C., 38, 42
 Weinbach, E. G., 352, 367
 Weinstein, P. P., 377–8, 387, 519, 522–3, 526
 Wells, J., 178, 191, 202
 Wells, K. E., 269, 276
 Wenger, F., 151, 156
 Wenk, P., 423, 435, 436, 523, 525
 Wernsdorfer, G., 129, 136
 Wernsdorfer, W. H., 110, 126, 126, 137
 Wescott, R. B., 206, 218
 Wessenberg, H. S., 145, 156
 Wharton, D. A., 368, 374, 377, 379, 382–3, 387
 White, G. B., 129, 136
 White, I. C., 196, 202
 Whitfield, P. J., 178, 191, 192, 202, 322, 345, 456, 459
- WHO, 26, 42, 69, 71, 72, 77, 78, 80, 87, 126, 136, 142, 143, 236, 245, 253, 326–8, 331, 337–8, 340, 348, 407, 411, 418, 422, 430, 432, 436
 Whyte, S. K., 259, 262
 Wikgren, B.-J. P., 5, 9, 306, 308, 319
 Wikgren, M., 362, 367
 Wiles, M., 172, 174
 Williams, D. D., 310, 319
 Williams, H. H., 21, 279, 279, 286, 295, 296, 301
 Williams, J. E., 29, 42
 Williams, J. F., 477, 488
 Williams, M. O., 258, 262
 Williams, S. A., 427, 430, 436
 Wilson, J. F., 334–5, 339, 348
 Wilson, P. A. G., 439, 450
 Wilson, R. A., 189, 202, 208, 209, 218, 242, 253, 470, 474–5, 489
 Wilson, R. J. M., 112, 124
 Winfield, I. J., 317, 317
 Winkfein, R. J., 438, 450
 Wisniewski, L. W., 311, 319
 Wissler, K., 305, 318
 Woo, P. T. K., 51, 56, 497, 501
 Wood, B. P., 229, 235
 Wood, D. E., 296, 298–9, 301
 Woodbury, R. G., 480, 490
 Woodhead, A. E., 395, 396
 Wooten, 406, 411
 Work, K., 100, 108
 Worms, M. J., 17, 21
- Wright, K. A., 383–4, 387
 Wright, R. D., 454, 459
 Wright, S. G., 51, 55
 Wrong, O. M., 12, 15, 21
 Wyatt, R. J., 316–17, 320
 Wykoff, D. E., 213, 218
 Wyler, D. J., 466, 486
- XYLANDER, W. E. R., 278–80, 280
- YAKSTIS, J. J., 391, 395
 Yamaguti, S., 164, 174, 175, 177, 226, 235, 277, 280, 281, 295, 324, 348, 451, 459
 Yamane, Y., 303, 305–6, 308, 320
 Yang, H. C., 32, 41, 186, 200
 Yasuraoka, K., 242, 252, 504, 526
 Yen, P. F. K., 430, 437
 Yokogawa, M., 230, 231, 235
 Yokagawa, S., 412–13, 422
 Yong, T. S., 24, 42
 Young, A. S., 139, 142, 143
- ZEBROWSKA, D., 343, 348
 Zeledon, R., 73, 74, 86
 Zhou, S. L., 506, 526
 Zimmerman, G. L., 519–20, 526
 Zimmerman, W. J., 394, 396
 Zoli, A., 332, 348
 Zurita, M., 186, 202
 Zvala, F., 468, 488

Subject index

Note: Names in **bold italics** are parasites, those in *italics* only are hosts and vectors. A page number in bold type refers to an illustration, with or without accompanying text.

- Abate, chemical control, 434
 Ablastin, 65, 66, 466
Abra alba, 204
Acanthamoeba, 36
 compared with *Naegleria*, 36–7
Acanthamoeba astronyxis, 37
Acanthamoeba castellanii, 36
 in vitro culture, 37
Acanthamoeba culbertsoni, 37
Acanthamoeba palestinensis, 37
 Acanthocephala, 451–9
 body wall, 454
 classification, 457
 common species listed, 453
 defined, 157
 hosts, 451–3
 paratenic, 451
 in vitro culture, 37
 life cycles, 456
 literature reviewed, 451
 morphology, 453
 polyploidy, 455
 reproductive system, 455–6
 ultrastructure, 454
Acanthocephalus ranae, hosts, 453
Acanthocheilonema *see* *Dipetalonema*
Acanthocheilonema viteae, adults *in vitro*, 523
 Acetate production, 39
 Acriflavin, 59
Adamsia palliata, anemone, 2
 Adaptation to parasitism, 7
 ADCC (antibody-dependent cellular cytotoxicity), 463, 475
 mechanisms, 478
Adelea, 94
 Adeleina (suborder), 94
 Adenophorea (subclass), 368
 Adjuvants, 485
Adlerius, 78
 Adrenaline, 149, 271
 encystment of *Opalina*, 148, 148
Aedes aegypti, 149, 271
 Aerobic/anaerobic switch, *Ascaris*, 442
 Afghanistan, 78
 Africa, 78, 331, 432
 Agglutinins, 460, 470
Aggregata eberthi, 89
 AIDS, 472
Alaria alata, mesocercaria, 195, 195–6, 196, 226
 Albendazole, 336, 339, 404
Alcephalus buselaphus, hartebeest, 68
 Alimentary canal
 enzymes in, 12
 physico-chemical characteristics, 14
 reviewed, 11
Allobophora
 gregarines in, 89
 see also Earthworms
Alocima longicornis, 213
Alopex lagopus, Arctic fox, 305
 Alveolar hydatid disease, pathology, 339
 Amastigote, 61, 62
 –promastigote transformation, 77
Amblosoma suwaense
 hosts, 504
 in vitro culture, 503
 America *see* USA
 American spadefoot toad, 169
 Aminergic neurones, nematodes, 282
 Amino acid uptake
 in intestine, 13
 Plasmodium, 122
 Trematoda, 269
 Amoebae, 22–43
 in mineral water bottles, 33
 Amoebapain, 39
 Amoebiasis, 27–9
 Amoebic meningoencephalitis, primary (PAM), 36
 Amoeba-flagellate transformation, 33, 34
 Amoebostomes, 33
 Amphibia
 bile, 17
 malaria in, 135
 Amphids, 373, 376
Amphilina foliacea, 278
 Amphilinea (order), 278
 Amphipods, as hosts, 278
 Amphistome, 197, 259
 Amphizoic, 32
Amplicaecum robertsi, 401
 Anaphylactic shock, 477
 Anapolytic cestodes, 282
Anas platyrhynchos, 254
 Anasakiasis, in man, 407
 Anasakidae, 406
Anasakis simplex, 406, 407
Ancylostoma
 buccal cavity, bursa, 419
 humidity effects, 419
 larval responses, 419
Ancylostoma caninum, 419, 420
 in vitro culture, 519
 in man, 420
 morphology, life history, 418
 osmotic pressure effects, 377
 vaccine against, 483
Ancylostoma duodenale, 415, 519
 Ancylostomatidae, 418
Anopheles, vectors, 130, 133, 427
 Anoplocephalidae, 286
 Anterior station, 64
Anthocotyle merlucci, 163
 Antibiotics, *in vitro* culture, 492
 Antibodies, 462
 blocking antibodies, 471
 Antibody-dependent cellular cytotoxicity (ADCC), 463, 475, 478
 Antibody-mediated cytotoxicity, 481
 Antibody-mediated immunity, 468
 Anti-complementary molecules, 477
 Antigens
 45 kDa, in oncospheres, 484
 defined, 463
 gp 28 kDa, 484
 recognition, 462
 surface, 476
 variation of, trypanosomes, 57, 60, 470
 Antisera, against peptides, 272
 Anti-worm antibodies, 480
 Ants, 216
Aotus trivirgatus, monkey, 131
Apatemon gracilis, egg-shell, 186
Apharyngostrigea pipientis, 226
 Aphasmid nematodes, 369
 Apicomplexa, defined, 43, 49
Apodemus sylvaticus, host for *Heligmosomoides*, 397, 417
 Apolytic cestodes, 282
 Aporidae, 281, 300
 Archiacanthocephala, 457
Archigetes, 310–11
Archigetes limnodrili, tubificid hosts, 311
Archigetes sieboldi, 311
 Arctic fox, *Alopex lagopus*, 305
Arenicola ecaudata, polychaete worm, 91
 Argentina, 73, 75, 423
 Chagas' disease in, 73
Arion, 214
Artyfechinostomum mehrai, 185
 Ascariasis, chemotherapy, prevalence, 404
 Ascaridida, 369, 400
 Ascaridoidea, pharynx, 374, 401
Ascaris lumbricoides (= *suum*), 401–6
 amphids, 373
 egg, 380
 egg-shell, 379
 embryonation, 403
 hatching, 382
 histology
 cuticle fibres, 385
 hypodermis, 376
 intestinal cells, 375
 muscle, 376, 385
 in vitro culture, 518–20
 larval migration, 403
 life cycle, 403
 metabolism
 anaerobic carbohydrate, 440
 fatty acid production, 448
 glucose utilisation, 442
 isoenzymes, 402
 morphology, 402
 nervous system, 376

- transverse section, 401
prevalence, global, 390
speciation, 402
- Ascariosides, 379, 439
- Ascetospora, 88
- Ascorbic acid, *Giardia* culture, 496
- Asellus*, host for *Acanthocephala*, 453
- Aspicularis tetraptera*, 379, 408
- Aspidogastrea, 175
- Asymptomatic carrier, 29
- Atoxoplasma*, 100
- Atriotaeia*, 277
- Audouinia (Cirratus) tentaculata*, 91
- Aulodrilus plurisetus*, host for *Archigetes*, 311
- Australia, *Ligula*, 316
- Austrampphilina elongata*, 278
- Austria, 340
- Autoimmunity, *Hymenolepis*, 476
- Autophagosome, 58
- Axenic culture, 257, 491
- Axine belones*, 163
- Axostyle, 44
- B cells, defined, 461
- Babesia*, 139–42
immunity, 468
in vitro culture, 500
- Babesia bigemina*, 139–40
- Babesia bovis*, 139–40
- Babesia canis*, life cycle, 141
- Babesia microti*, man, 142
- Babesiidae, 109
- Babesiosis
man, cattle, 142
vaccines against, 482
- Bacillary band, 388
- Bacillary layer, 375
- Baghdad boil, 79
- Balantidiasis, outbreak, 151
- Balantidium*, 145
- Balantidium coli*
in vitro culture, 494
man, pigs, 151
- Balantidium duodenii*, 145
- Balantidium elongatum*, 145
- Balantidium entozoon*, 145
- Bancroftian filariasis, 326
- Bangladesh, 212
- Barbus sachsii*, Schuberti barb, host for *Ligula*, 317
- Basal body, 60
- Basophils, 464
- Bass, 298
large-mouth, 452
small-mouth, 299
- Bear, 390
- Beef tapeworm *see Taenia saginata*
- Beirut, *Toxoplasma* prevalence, 103
- Belgium, anisakiasis, 406
- Belize, Chagas' disease, 73
- Belone belone*, garfish, 163
- Bentonite assay, 394
- Benzimidazole compounds, 336
- Besnoitia*, 100
- Biacetabulum*, 311
- Bile
composition of, 17–18
oxygen tension in, 17
triggering action of, 17
- Bile ducts, cestodes in, 277
- Bile salts
and hatching in
Acanthocephala, 457
listed, 210
- Biomphalaria glabrata*, 241
- Bithynia (Bulimus)*, 213
- Blaberus craniifer*, cockroach, 89, 94
- Black bear, 305
- Blackfly, *Prosimulium hirtipes*, 138
- Blackfly, *Simulium*, vector for *Onchocerca*, 426
- Blackhead (histomoniasis), 52
- Blastocritidia, 62, 63
- Blatella germanica*, cockroach, 89, 408
- Blatta orientalis*, 89
- Blepharoplast, 60
- Blocking antibodies, 471
- Blood, as environment, 17
oxygen tension, 17
- Body cavity, as habitat, 19
- Boeck–Drbohlav culture medium, 493
- Bolivia, Chagas' disease, 73, 75
- Boophilus*, as vectors, 140
- Bordeur en brousse*, 375
- Bothria, 282
- Bothridia (Phyllidea), 282
- Bouton d'Orient, 79
- Bradynema*, 383
- Bradyzoites, of *Toxoplasma*, 102
- Brain
Bucephaloides, 203
Diplostomum, 254
- Branchiura sowerbyi*, tubificid, 311
- Brandesia turgida*, 221
egg-shell, 185
- Brazil, 73, 75, 78, 390, 423, 428
- Brood capsules, *Echinococcus*, 292, 334, 335
- Brotia asperata*, snail, 231
- Brugia*
in man, vectors, 426
microfilaria staining, 430
- Brugia malayi*
DNA probes, 427
in vitro culture, 521, 528
life cycle, 427
- Brugia pahangi*
DNA probes, 427
glycolytic enzymes, 443
immunity, 478–9
in vitro culture, 521
uptake via cuticle, 446
- Bucephalidae, 203, 1989
- Bucephaloides gracilescens*
adult, 203
cercaria, 204
egg-shell, 185
in vitro culture, 205
metacercaria, 203
- Bucephalus*, hosts, 204
- Bucephalus haimeanus*, 204
- Bucephalus longicornutus*, 204
- Bucephalus polymorphus*,
cercarial emission, 205
- Buffalo, *Echinococcus* culture, 516
- Bufo* (toads), 219
adrenaline/ACTH, encystment of *Opalina*, 148
- Bulimus fuchsianus*, 213
- Bursa, 378, 419
- Bush pig, *Potamochoerus*, 393
- Bushback, 68
- Bütschlii parva*, 154
- C3b molecules, 471
- Caecum physiology, 13
- Cairina moschata*, 254
- Calabar swellings, 428
- Calcareous corpuscles, function, 351
- Calicotyle kroeyeri*, 167, 170, 185
- Callibothrium verticillatum*, 354
- CAM culture technique, 507, 508
- Camallanina (suborder), 432
- Cambarus*, 232
- Camel, *Echinococcus*, 336
composition, 351
isolates cultured, 516
- Cameroon, 390
- Cameroon, West, *T. solium*, in man, pigs, 331–2
- Canada, 229, 354
anisakiasis, 406
Diphyllobothrium, 307–8
Dirofilaria, 425
Ligula, 316
Schistocephalus, 313
- Candle-jar system for *Plasmodium* culture, 498
- Canine hookworm, 483
- Capillaria hepatica*, egg-shell, 379
- Carbohydrate metabolism
amoebae, 38
Ascaris lumbricoides (= *suum*), 440
Cestoda, 352–3, 355
intraspecific differences, 353
Echinococcus granulosus, 38, 353
gut uptake, 13
Nematoda, 440
Trematoda, 266
trypanosomes, 81
- Carbon dioxide *see* CO₂
- Carcinogenetic substances, 148
- Cardiolipin, 47
- Cardium edule*, parasites, 204
- Caribbean region, 390, 418
- Carmyerius* spp., egg-shell, 186
- Caroline Islands, 151
- Caryophyllaeus*, 311–12
- Caryophyllidea (Order), 281, 310
- Castration, parasitic
fish by *Ligula*, 313, 317
oysters by *Bucephalus*, 205
snail by *Trichobilharzia*, 191
- Cat, host for
Brugia, 427
Diphyllobothrium, 307
Dirofilaria, 425
Giardia, 52
- Spirometra*, 309, 310
- Taenia*, 342
- Toxoplasma*, 103
- Catechol oxidase, 184
- Catecholaminergic cells, 382
- Cathaemasia hians*, 195
- Cattle
Onchocerca lienalis, 429
Swiss, *Echinococcus*, 336
Taenia saginata, 328, 330
theileriasis, 142
- CD surface, 462
- Celebes, 245
- Cell division, *Acanthocephala* and *Naegleria* compared, 35
- Cellia*, vectors of malaria, 130
- Cellulose, 6
- Cellulase, 6
- Cellulose tubing, for cestode culture, 509–10
- Cepedea dimidiata*, 145
- Cephalogonimus*, 226
- Ceratophyllus fasciatus*, 65, 321
- Cercaria vitrina*, 215
- Cercaria–schistosomulum transformation, 181
- Cercariae
cercariogenesis, 242
classification, 191, 192
emission, *Bucephalus*, 205
penetration of host, *Diplostomum phoxini*, 257
progenetic, 191
tegument, 181
of *Transversotrema*, 192
types, 193
- Cercarial dermatitis, 251
- Cercarienhillenreaktion (CHR), 243
- Cercomer, defined, 304
- Cestoda
biochemistry/physiology, 349–59
amino acid uptake, 360
carbohydrate metabolism, 352–3, 355
chemical composition, 350
electron transport, 359
Embsen–Meyerhof pathway, 355–6
energy metabolism, 357
lipid metabolism, 352, 361, 363
nitrogen metabolism, end-products, 361
protein metabolism, 359
respiratory end-products, 356
sterols, 362
transamination, 360
broad tapeworm of man, 307
classification, 277
destrobilisation, 476
developmental biology reviewed, 293
histology
body wall, 252
flame cell (bulb), 285
glycocalyx, 283
tegument, 283

536 | Subject index

- Cestoda cont.**
immunity to
 adult worms, 475–6
 larval stages, 477, 484
immunoreactivities, 271
in vitro culture, 509
 see also individual species
life cycle, 287–91
 anapolytic/apolytic, 282
 asexual multiplication, 344
 egg, 287
 egg hatching, 288, 290, 291
 egg membranes (envelopes), 288
 embryonic development, 289
 larvae, 292
'metacestode', 292
morphology
 muscular system, 284
 nervous system, 284, 285, 363
 neurobiology, 362, 363
 neurosecretory cells, 362
 ontogeny reviewed, 293
 pathology, reviewed, 293
 reproductive system, 285
 self-insemination, 285, 286
 spermatozoa, 286
Cestodaria, 281
Chagas' disease, 72–5
 global distribution, 73
 pathology, 75
 vectors, 73, 75
Chagoma, 75
Char, 305
Chelodina longicollis, turtle, 278
Chelon labrosus, mullet, 229
Chemical composition
 Cestoda, 350
 Nematoda, 439
 Trematoda, 264
Chemokinesis, 190
Chemotaxis
 metacercaria, 258
 miracidium, 190
Chemotherapy
 ascariasis, 404
 filariasis, 427
Chick
 chorioallantoic membrane (CAM) culture, 508
 host for *Schistocephalus*, 313
Chile, 73, 75, 308, 406
Chilomastix mesnili, 49
Chimpanzee, 131
China, 78, 212, 231, 245, 331, 418
Chitin, 379
Chitinase, 382, 457
Choanostagote, 62
Cholate, 17
Cholecystokinin, 271
Cholesterol, cestodes, 362
Cholic acid, 17
Cholinergic molecules
 cestodes, 362
 Diclidophora, 272
Chorioallantoic membrane (CAM) culture, 508
CHR (cercarienhiillenreaktion), 243
Chromidial bars, 25
 bodies, 23, 25
Chromosomes
 Acanthocephala, 455
 Eimeria, 94
 Onchocerca, 431
 Paragonimus, 232
 Schistosomatium, 248
 Taenia crassiceps, 341
 telokinetic, 153
 Trichinella pseudospiralis, 394
 Trichinella spiralis, 394
 Trypanosoma, 71, 72
Chrysops, 428
Ciliophora, 43, 144
Cionella lubrica, 214, 215
Circadian rhythm, 6, 205, 208
Circumsporozoite, protein (CSP)
 as antigen, 468, 469
 vaccine, 481
Citrate synthase, 82
Clethrionomys, red-black mouse, 248, 338
Clionostomum attenuatum, 196
Clionostomum marginatum, 226
Clonorchis see *Opisthorchis sinensis*
CO₂
 -fixation, *Plasmodium*, 119, 121
Ancylostoma larval movements, 419
 nematode egg hatching, 381
 Ascaris, 419
 nematode moulting, 4, 381
 plasma level, 492
 trematode excystment, 4
Cobalamins, absorption by
 Diphyllobothrium, 308
Coccidia
 defined, 43
 general account, 88
 immunity, 471
 life cycle, 94, 95
 merozoite ultrastructure, 96
 subclasses, 89
Cochlicella, snail, 215
Cockroach as host
 Blaberus craniifer, 89, 94, 153
 Blaptica, 153
 Blatta, *Blattella*, 89, 408
 Entamoeba, 31
 Periplaneta
 gregarines, 408
 Leidyneima, 408
 oxyurids, 408
Codonocephalus urnigerus, 195
 in vitro culture, 503
Coelomic fluid, 385
Coelomocytes, 385, 402
Coelomyarian muscle cell, 384
Coenurus (*T. serialis*), 292, 293
Coitocaecum anaspidis, 194, 196
Collagen, 37
 in nematode cuticle, 438–9
 surface for culturing *Trichinella*, 521
 synthesis in nematodes, 446
 in *Taenia solium*, 352
Collagenase, 191, 242
Columbia, 73, 75, 334
Commensalism, 1
Competitive exclusion principle, 11
Complement
 activation, leishmaniasis, 471
 components, 477
 defined, 463
Conchicopa, snail, 215
Concomitant immunity, 473–4
Confocal laser scanning technology, 363
Conger conger, 204
Conoid, in coccidia, 97
Contact (membrane) digestion, 349
Contracaecum osculatum, 406
Control of
 anisakiasis, 407
 ascariasis, 404
 filariasis, 427
 hydatid disease, 339
 malaria, 126
 onchocerciasis, 429
 river blindness, 429
 toxocariasis, 406
 trichinosis, 394
 trypanosomiasis, 72
Cooperia punctata, *in vitro* culture, 519
Copulatory spicules, 378
Coracidium, 303
Cormorants, 306
Corona radiata, 418
Corsica, 417
Costa, defined, 44
Costa Rica, 73
Côte d'Ivoire, 434
Cotton rat, *Sigmodon hispidus*, 423, 424
Cotugnia, end products, 355
Cotylaspis insignis, 175, 176
Cotylurus erraticus
 in vitro culture, 504–6
 morphology, 506
Coyote, 104
Crassostrea virginica, 204
Creek chub, 452
Crithidia, 63
Crowding effect, 355, 476
Cryptic antigens, 485
Cryptocotyle lingua, 11, 228
 egg-shell, 185
 life cycle, 229
Cryptocystis, defined, 293
Cryptosporidium
 immunity, 468, 471–2
 life cycle, 99
Ctenocephalides canis, dog flea, 65, 321, 342
Culex, 134
Culex pipiens complex, 427
Culicoides furens, 428
Culicoides grahami, 428
Culiseta annulata, 134
Cutaneous larva migrans, 420
Cutaneous leishmaniasis, 76, 79
Cuticle
 of *Ascaris*, 401
 defined, 178
 of Nematoda
 antigens, 478
 structure, 383, 384, 478
Cyathocotyle bushiensis, egg-shell, 185
Cyclophyllidea (order), 281
 general account, 321
 in vitro culture, 511
Cyclops, 302, 304, 433
Cypria, 452
Cypridopsis vidua, 452
Cyprus, 78
 hydatid disease, 337
Cystacanth
 Momiliformis, 452
 Polymorphus, 457
Cysteine, effect on:
 Entamoeba in vitro, 494
 Giardia in vitro, 496
Cysticeroid, 292
Cysticercosis, 332
 in man, 326, 331–2
 New Guinea epidemic, 332
 in pig, 331, 332
Cysticercus, morphology, 292, 293
Cysticercus cellulosae, 330
Cysticercus cerebralis, 332
Cysticercus fasciolaris, 341
Cysticercus pisiformis, 340
Cysticercus serialis, 333
Cytochromes
 in Cestoda, 359
 in Nematoda, 441
 in *Plasmodium*, 121
Cytokines, 461, 463, 471, 472, 475, 481–2
Cytons, 178, 283
Cytostome, 60
Cytotoxic cells, 462
Dace, *Leuciscus*, 164
Dactylogyrus, in fish, 164
Danio malabaricus, host for *Ligula*, 317
Dasybus, opossum, 74
'Dauer' larva, 369, 371
Dauphin Lake, Canada, *Ligula* in, 316
Davainiidae, 286
DEC, 428
Deer mouse, *Peromyscus maniculatus*, 248, 417
Delhi sore, 79
Dendrobilharzia, 251
Deoxycholic acid, 17
Dermatocentor, as vectors, 140
Deuteromere, 90–1, 93
Diagnosis, immunological tests, 482, 485
Diaphorase, 233
Diaptomus fragilis, host for:
 Diphyllobothrium, 302, 304
 Ligula, 317
Diclidophora luscae, 163, 185
Diclidophora merlangi, 163
 egg-shell histochemistry, 185
 immunoreactivities, 271, 272
 morphology, 169, 171
 nervous system, 272

- reproductive system, 162
 tegument, ultrastructure, 162
- Dicrocoeliidae, 198
- Dicrocoelium dendriticum**, 214–16
 egg-hatching, 190
 hosts, 216
 immunity, 476
 life cycle, 215
 morphology, 214
 snail hosts, 214
- Dicrocoelium hospes**, 216
- Dictyoceaulus**, 420
- Dictyoceaulus viviparus**, vaccination, 483
- Didelphis*, opossum, 75
- Didymozoidae, 263
- Dientamoeba fragilis**, 32
in vitro culture, 494
- Diethylcarbamazine, in filariasis, 427
- Digenea
 digestive enzymes, 265
 egg-shell formation, 185
 general account, 178
 peptide immunoreactivities, 271
see also Trematoda
- Digestive tract, herbivores, 154
- Dikerogammarus*, 278
- Dingo, 353
- Diocotophymatoidea, pharynx, 374
- Diocotophyme renale**, 395
- Dioecocestus**, 285
- Dipeptides, uptake, 13
- Dipetalonema streptocerca**, vectors, 426
- Dipetalonema** (= **Acanthocheilonema**) **viteae**, 442–3
- Diphasic medium for *Echinococcus*, 514
- Diphylloidea, 199, 281
- Diphyllobothriidae, 307
- Diphyllobothrium dendriticum**, 302–6
 adult, growth in host, 305, 306
 copepod hosts, 303
 distribution in fish, 305
 egg embryonation, hatching, 303
 end products of metabolism, 355
 hosts, 302, 303
 immunoreactivities, 271
 laboratory maintenance, 303
 life cycle, 303, 304
 in man, 305
 morphology, 303
 peptidergic substances, 272, 363
 proceroid, plerocercoid, 305
- Diphyllobothrium ditremum**, 306
- Diphyllobothrium latum**, 306–8
 characters, compared with other species, 307
 development in hamsters, 208, 306
 hosts, 307
 life cycle, 308
- paratenic hosts, 308
 strobila shedding, 308
 vitamin B₁₂ absorption, 308
- Diphyllobothrium nikonkaiense**, 308
- Diplodinium hegneri**, 154
- Diplodiscus subclavatus**, 221
 egg-shell, 186
 life cycle, 260
- Diplogonoporus grandis**, calcareous corpuscles, 351
- Diplomonadida, 43
- Diplostomatidae**, 198
- Diplostomulum**, 254
- Diplostomum adamsi**, 258
- Diplostomum flexicaudatum**, 258
- Diplostomum gasterostei**, 258
- Diplostomum horonense**, 258
- Diplostomum phoxini**, 254–8
 cercaria, 257
 egg-shell formation, 186
in vitro culture, 256, 504, 506
 lappets, 266
 life cycle, 255
 metacercaria, 257
 morphology, 255
- Diplostomum spathaceum**, 258
 CAM culture, 509
 cercaria–metacercaria transformation, 259
 egg-shell histochemistry, 186
in vitro culture, 259, 504, 505–6
 life cycle, 259
 morphology, 258
 swimmers'itch, 251
- Diplostomum volvens**, 258
- Diplozoon paradoxum**
 cholinesterase in nervous system, 270
 hosts, 164
 morphology, 169, 171
- Dipylidium caninum**, morphology, 342
- Dirofilaria immitis**
 glycolytic enzymes, 443
in vitro culture, 521, 523
 life cycle, 425
 microfilarial periodicity, 431–2
- Dirofilariosis, 425
- Dismutation, anaerobic, 267
- Dissimilation, anaerobic, 440
- Distome, 197
- Dityrosine, in egg-shells, 185
- DNA
Echinococcus granulosus, 551
 library, *Taenia taeniaeformis*, 342
 mitochondrial (mt-DNA), 59
 polyploidy in *Acanthocephala*, 455
 probes
 for *Brugia*, 426–427
 for *Taenia*, 328
 restriction enzyme analysis, 243
 sequence analysis, 80
- Dog
 carbon dioxide in blood, 16
 host for:
Ancylostoma caninum, 420
Babesia canis, 141
Brugia pahangi, 427
Diphyllobothrium latum, 307
Dracunculus medinensis, 433
Echinococcus granulosus, 338, 351
Echinococcus multilocularis, 337
Giardia lamblia, 52
Spirocerca lupi, 434
Taenia pisiformis, 341
Toxocara canis, 404, 405
Toxoplasma gondii, 104
- Dog flea, *Ctenocephalides canis*, 65, 321, 342
- Dog louse, *Trichodectes canis*, 342
- Dogfish, host for *Trilocularia*, 296, 297
- Dolichols, 270
- Dolichosacchus**, 221
- Dolichosacchus rastellus**, egg-shell, 185
- DOPA, in egg-shell, 186–188
- Dopamine, 271
- Dot–blot test, 486
- Dracunculiasis, control, 434
- Dracunculoidea, pharynx, 374
- Dracunculus medinensis**, 432–4
 bibliography reviewed, 432
 head anatomy, 433
 tail, phasmsids, 373
- Dreissena polymorpha*, 205
- Drugs, 475
- Duck, 254
Polymorphus minutus, 451
Schistocephalus solidus, 313
- Dum-dum fever, 76
- Duodenum, physiology, 12
- Dyskinetoplasty, 59
- Eagle's medium, 497
- Earle's saline medium, 519
- Early immunity, 477
- Earthworms
 gregarines in, 89
Lumbricus, gregarines in, 89
Rhabditis in, 369
 transport host for *Syngamus*, 420
- Earwig, *Foricula auriculia*, 89
- Ecdysis, nematoda
Ascaris larvae, 442
 hormonal control, 381, 382
see also Moulting
- Ecdysone, 270, 382
- Ecdysteroids, 382
- Ecdysterone
 effect on gregarines, 92
 induction of encystment, 148
- Echinobothrium**, 299
- Echinococcosis *see* Hydatid disease
- Echinococcus**, 287, 336
 recognised species, 334
 sexual/asexual differentiation, 512, 513, 514
- Echinococcus granulosus**, 333, 334
 antigens, 352
 biochemical composition
 Kenya/UK, 351
 brood capsule, 335
 carbohydrate metabolism, 353
 pentose phosphate pathway, 355
 cholesterol, 362
 compared with *E. multilocularis*, 338
 control, 336
 cross-fertilisation, 336
 differentiation, cystic, strobilar, 340, 514
 DNA probes, 336
 DNA/RNA content, 351
 egg
 identification, 334
 monoclonal antibodies, 336
 end-products
 carbohydrate metabolism, 355
 intraspecific variation, 353
 genetics, 336, 337
 hydatid cyst, 334, 335
in vitro culture, 513–17
 asexual/sexual development, 514
 circulating lift, 517
 cystic culture, 517
 differentiation, 518
 isolates, different hosts, 515, 516
 medium for culture, 512
 protocol for culture, 511
 protoscolex differentiation, 513
 sexual development, 515
 strain differences, 336, 515
 life cycle, 333, 334
 monoclonal antibodies, 334
 monozoic worms, 340, 515
 morphological development, 334
 niche differences, 11
 pentose-phosphate pathway, 355
 prepatent period, 336
 protoscolex differentiation, 514
 rodent hosts, 339
 scolex in dog gut, 335
 self-insemination, 287, 336
 strains, 11, 336, 515
 horse strain, 336
in vitro culture, 515
 in Swiss cattle, 336
- Echinococcus multilocularis**, 334, 337–46
 chemotherapy, 339
 compared with *E. granulosus*, 338
 cyst, 340
 distribution, 340
 in immunosuppressed hamsters, 339
in vitro differentiation, 512, 517, 518
 sexual development, 517
 monozoic forms, 341, 346, 517
 morphology, 334
- Echinococcus oligarthrus**, 334

538 | Subject index

- Echinoparyphium recurvatum**, 195
 egg-shell, 185
- Echinorhynchus**, in fish, 453
- Echinostoma**
 infecting man, 228
 reviewed, 228
- Echinostoma malayanum**, *in vitro* culture, 507
- Echinostoma revolutum**
 egg-shell, 185
 morphology, 196
- Echinostomatidae, 195, 198, 221
- Echinostome, 197
- Ectomerozoen, 101
- EE stages, *Plasmodium*, 111–12, 469
- Egg**
Ascaris lumbricoides, 380, 389, 403
 Cestoda
 hatching, 288, 290
 types, 288–9, 290–1
 embryonation
 Ascaris, 389
 Diphyllobothrium, 303
 Toxocara, 404
 Trichuris, 389
 formation, Trematoda, 184, 187
 Nematoda, 381
 production, Trematoda, 268
 in sewage, 327
- Egg-shell, formation
 Acanthocephala, 456
Ascaris, 403
 elastin, 185
Fasciola, 187–8
 Nematoda, 379, 403
 platyhelminths, 185
 Trematoda, 184–8
- Egypt, 24
- E_h
 defined, 492
 effect on pseudopodia movement, 26
see also Oxidation–reduction potential
- Eimeria**
 hosts listed, 96
 immunity, 98, 468, 471
in vitro culture, 500
 life cycle, 95
- Eimeria stiedae**, 97
- Eimeria tenella**, 97
 chromosome number, 94
- Eimeria vermiformis**, 472
- Eimeriina (suborder), 94
- Eisenia**, transport host for *Syngamus*, 420
- Ekari population, cysticercosis, 332
- El Salvador, Chagas' disease, 73
- Elastin, in egg-shell, 185
- Electron transport amoebae, 39
 Cestoda, 359
Plasmodium, 121
- Elephantiasis, in man, 326, 426
- ELISA test, 485
- Embadomonas intestinalis**, 49
- Embden–Meyerhof pathway
 in Cestoda, 356
 described, 356
 in *Entamoeba*, 38
 in *Plasmodium*, 119
- Embryophore, 288
 ciliated, 303
- EMEM medium, 492, 496
- Encystment (encystation)
Nyctotherus, 152
Opalina, 104, 147
- Endocrine *see* hormone
- Endocystosis, *Trypanosoma*, 60
- Endodyogeny, 101, 102
- Endolimax nana*, 31
- Endopolygeny, 101
- Enoplida (order), 369
- Entamoeba**, species compared, 25, 28
- Entamoeba blattae**, 31
- Entamoeba coli**
 general account, 29
 morphology, 25
- Entamoeba gingivalis**
 general account, morphology, 30
in vitro culture, 495
 periodontitis, 30
- Entamoeba hartmanni**, morphology, 25
- Entamoeba histolytica**
 chemical composition, 38
 cysteine effect, *in vitro*, 495
 E_h effect on growth, 494
 glucose uptake, 38
in vitro culture, 493–5
 life cycle, 26, 27
 'magna' form, 25
 metabolism, 38, 39
 morphology, 25
 pathology, 27
 physiology, 37
 pinocytosis, 38
 strains, collagenolytic activity, 37
 ultrastructure, 24
 zymodemes, 28
- Entamoeba invadens**, 30, 31
- Entamoeba moshkovskii**, 30, 31
- Entamoeba muris**, 22, 23
- Entamoeba ranarum**, 31
- Enterobiasis, chemotherapy, 409
- Enterobius vermicularis**, 408, 409
- Enteromonas hominis**, 49
 adult, 176
 egg-shell formation, 185
 oncomiracidium, 170
 ultrastructure, 166
- Entobdella soleae**, 172
- Entodiniomorpha, 144, 153
- Entodinium caudatum**, 154
- Enzoic phase, 32
- Eoacanthocephala, 457
- Eosinophilia, due to *Spirometra*, 310
- Eosinophils, 464, 474–5, 480, 483
- Epicuticle, and epidermis, 383–4
- Epidemiology
 giardiasis, 51
 hydatid disease, 337
 trichuriasis, 389
- Epifluorescence microscopy, 363
- Epimastigote, defined, 61
- Epimerite, 90, 93
- Epitopes, 461, 464, 470
- Eriocher**, 232
- ES (excretory/secretory) antigens, 478
- Espundia, 76, 79
- Esterase polymorphism, 80
- Ethiopia, 78, 390
- Euapolytic cestodes, 282
- Eucestoda, classification, 281
- Eucoccidia, 94
- Euiyodrilus**, 311
- Euphausia**, 406
- Euryhelms squamula**, 195
- Eutely, nuclear constancy, Acanthocephala, 455
- Evagination of scolex, bile action, 17
- Evasion of immunity, 465
- Excretory/secretory (ES) antigens, 478
- Excystment
Cryptocotyle, 229
Fasciola, metacercaria, 210
- Exflagellation, *Plasmodium yoelii*, 115
- Exo-erythrocytic (EE) stages, *Plasmodium*, 469
- Exozoic/enzoic phase, 32
- Eye, *Diplostomum* metacercaria in, 258, 259
Onchocerca microfilariae in, 430
- Eye worm *see* *Loa loa*
- Facultative parasites, 6
- Fallfish, 452
- Fasciola**, experimental excystment, 210
- Fasciola gigantica**, anaerobic metabolism, 266
- Fasciola hepatica**
 cercarial emergence, 208
 chemical composition, 264
 development in definitive host, 21
 egg-shell formation, 185–6, 187
 food, 265
 immune evasion strategies, 476
 immunoreactivities, 271
in vitro culture, 505
 life cycle, 207
 in man, 206
 Mehli's gland cytology, 273
 metabolism
 aerobic/anaerobic, 267
 energy pathways, 266, 267
 enzyme level in migration, 211
 lipid metabolism, 269
 protease, 265
 metacercarial cyst excystment, 210
 structure, 209
 miracidium, 190
 redia in snail, 208
 seasonal occurrence, timetables, 209
 snail hosts, 207–8
 strains, 406
 ultrastructure
 gut cell, 182
 mitochondrion activity, 267
 tegument, 180
- Fasciola indica**, egg-shell, 185
- Fasciolidae, 205–12
- Fascioloides magna**, 211
- Fasciolopsis buski**, 212, 507
 prevalence in India, 212
- Fast Red Salt B, 167
- Fatty acids, *de novo* synthesis, 269, 361
- Fellodistomatidae, 185
- Fertilisation
Echinococcus, 287, 336
Hymenolepis, 286
- Fibricola cratera**, 196, 226
- Fibrillated zone, 382
- Fieldmouse, *Apodemus*, 417
- Fierasfer** fishes, 2
- Filariæ
 in dogs, 425
 glycolytic enzymes, 443
 immune responses, 478
in vitro culture, 521
 in man, 426
 metabolism, 442
 in other animals, 431
 in rats, 424
- Filariasis, chemotherapy, 427
 species, literature reviewed, 425
- Filarioidea *see* Filariæ
- Filters, *Cyclops* control, 434
- Finland, 307
- Fish
 bile, composition, 17
 host for:
 Diplostomum metacercariae, 258
 Ichthyophthirius, 149
 Ligula, 317
 nematode larvae, 407
 Schistocephalus, 312, 315
 parasitic castration, by *Ligula*, 191, 314, 316
- Flagellata *see* Mastigophora
- Flagellates
 general account, 57–87
 intestinal, listed, 45
- Flame-cells
 Cestoda, Trematoda, 185, 285
 formula, 256, 258
- Fleas
Ctenocephalides canis, 65, 321, 342
Nosopsyllus fasciatus, 64, 65
Pulex irritans, 65, 342
- Florida, *Litomosoides* prevalence, 423
- Flounder, starry, 452
- Fluorescent microscopy, indirect, 272
- FMRF amide, 271
- Foricula auriculia** (earwig), 89

- Formica fusca*, 215
Formosa, 231
Fox
 Arctic, 305
 host for:
 Dirofilaria, 425
 Echinococcus, 337
 Sarcocystis, 104
 Taenia pisiformis, 341
 Vulpes vulpes, 337
France, 78, 346
 anisakiasis, 406
Frankelia, 100
Freeze–fracture, gregarines, 89
French Guiana, 68, 73
Frog
 adult
 ciliates in, 145
 Entamoeba in, 31
 metacercariae in, UK, USA, 309
 Spirometra in, 309
 trematodes in, 221
 larva, *Giardia* in, 50
 tree frog, 163
Fumarate reductase, Nematoda, 441
- Gadus*, 163, 300
Galactosamine, 352
Galactose, 352
Galumna, mites, 342
Gametocyst, 93
Gametocytes, antigens released, 47
Gammarus, 278
 Acanthocephala in, 452, 453
Gammarus lacustris, *Polymorphus*, 451
Ganeo tigrinum, egg-shell, 185
Garfish, *Belone belone*, 163
Gas phase, effect of *Plasmodium* culture, 498
Gases, intestinal, 17
Gasterosteus aculeatus
 Diphyllobothrium dendriticum, 302
 Diplostomum, 258
 Gyrodactylus, 164
 Neoechinorhynchus rutili, 296, 298, 452
 ovaries affected by
 Schistocephalus, 314
 Protocephalus filicollis, 296
 Schistocephalus solidus, 312, 314
 survival with plerocercoids, 316
 see also Sticklebacks
Gasterostome, 197
Gastrocystyle trachuri, 163
 egg-shell, 185
Gastrodiscus hominis, 260
Gastrodiscus secundus, 186
 egg-shell, 186
Gastrointestinal nematodes, immunity, 478, 484
Gastrophilus, 12
Gastrothylax crumenifer, 186
 egg-shell, 186
Gause's hypothesis, 10
- Genes
 egg-shell precursor gene, 186
 exchange, in trypanosomes, 52
 host–parasite interaction, 3
 ‘stolen’ from host, 5
Genetic variation, 465
 Echinococcus granulosus, 337
 factors, leishmaniasis, 471
Genitalia, cestode/trematode compared, 303
Genome, mitochondrion, trypanosomes, 59
Gentamicin, 498
Gerbils, immunosuppressed host for *Echinococcus*, 338
Germany, 346
 anisakiasis, 406
Germovittarium, 167
Giant Danios, host for *Ligula*, 317
Giant sinus nucleus, *Ascaris*, 402
Giardia, *in vitro* culture, 495–6
Giardia agilis, 50
Giardia canis, 52
Giardia caviae, 50
Giardia lamblia (= *duodenalis*)
 effect of reducing agents, 496
 epidemiology, 51, 52
 haploid chromosomes, 50
 metabolic end products, 39
 pathology, 57
 transmission, 51
Giardia muris, in mice, 50, 51
Giardia simoni, in cats, 52
Giardiasis
 hosts, 45
 literature review, 51
 transmission, 51
 zoonosis?, 52
Gibberellic acid, induction of encystment, 148
Gid (stagers), 332
Giraffe, 68
Gliding movement, gregarine, 93, 95
Glossina palpalis, tsetse fly, trypanosome development, 68
Glucosamine, 352
Glucose metabolism
 Leishmania, 83
 Schistosoma, 268
 trypanosomes, 82
Glucose phosphate isomerase, 28, 29, 80
Glucose uptake
 Entamoeba, 443
 Litomosoides, 443
 α -Glucosidase, 382
Glutamate transmitter, 271
Glutamic-oxaloacetic transaminase, 233
Glutamine, energy source, filariae, 443, 446
Glycerophosphate shuttle, 83
Glycine conjugates, 210
Glycocalyx
 Cestoda, 283
 Digenea, 179, 180, 181
 intestinal, 13
- Glycocholic acid, *Fasciola* metacercarial excystment, 210
Glycogen
 in *Schistosoma*, 268
 vacuole, 23, 25
Glycolytic enzymes, filariae, 443
 α -Glycosides, ascarosides, 379, 439
Glycosome, 58, 83
 activity reviewed, 81
Glythelmins quieta, 186, 196
Gnat fever, 138
Gnotobiotic culture, 491
Goat
 Echinococcus isolates, cultured, 516
Gobio gobio, 164
Golden hamster, 305, 306, 313
Gonodotrophin, 149, 153, 161
Gonospora arenicolae, 91
Gonospora varia, 91
Gorgoderina, 221, 226
Gorgoderina, egg-shell, 185, 226
Gorgoderina vitelliloba, 221
Gp 63 molecules, 471
Grace's insect cell culture medium, 522
Grammomys surdaster, 132
Granulomata, 475
Grayling, 452
Grebe, 306
Gregarina blaberae, 89
 freeze–fracture, 92
 sporulation and temperature, 94
Gregarina blattarum, in cockroach, 89
Gregarina cuneata, 88
Gregarina foricula, in carwig, 89
Gregarina garnhami
 life cycle, 89, 90–1, 93
 ultrastructure, 89
Gregarina polymorpha, 88, 91
Gregarina steini, 88
Gregarinia, 43, 89
 gliding movement, 93, 95
 Tenebrio molitor, 88
Grillotia heptanchi, 299, 300
Growth factor, for *Spirometra*, 5, 310
Guatemala, Chagas' disease, 73
Guinea pig
 Giardia, 50
 Haemonchus contortus, 417
Guinea worm, general account, 432
Gulls, *Larus*, 229, 258, 302, 305, 330, 404
Gurnard, *Trigla*, 163, 299
Guyana, Chagas' disease, 73
Gymnophallus australis, 196
Gynaecophoric canal, 236
Gyrocotyle urna, 279
Gyrodactylus, on fish, 164, 167, 169
- Habitat, 10
Haddock, *Melanogrammus*, 205
Haemamoeba, 110, 134
Haematoloechus, 219, 221, 226
Haematoloechus medioplexus
 egg-shell, 186
 hosts, 226
 life cycle, 224
 morphology, 223
Haemoflagellates, 57–87
 immunity, 467
Haemoglobulins, in Nematoda, 438
Haemogregarina, 94
Haemolymph, 385
Haemonchosis, reviewed, 417
Haemonchus contortus
 ensheathment, 4
 excretory system, 377
 immunity, 482
 in vitro, 519–20
 life cycle, 426
 lipid
 fraction changes, 447
 utilisation, 446
 moulting, 382
 in rodents, 417
 self cure, 482
 ultrastructure, 416
 vaccine, 485
Haemophysalis, 140
Haemoproteidae, 109
Haemoproteus, 138, 139
Haemoproteus columbae, 138–9
Haemoproteus meleagridis, 138
Haemosporina (suborder), 94, 109
 gametocyte ultrastructure, 114
Haemozoin, 112, 117
Haiti, 428
Hake, *Merluccius*, 163, 299
Halipegus, 226
Halipegus eccentricus, egg-shell, 185
Halipegus ovocaudatus, 221
Halteridia see *Haemoproteus*
Hamanniella, reproductive system, 456
Hamburger, source of trichinosis, 390
Hammerschmidthiella dicsingi, 408
Hamster
 Diphyllobothrium, 306
 Schistocephalus, 313
Hamulus, 159
Haplometra cylindracea, 219
 egg-shell, 186
 hosts, 221
 life cycle, 221, 222
 morphology, 220
Haptor, 158, 159
Hartebeest, *Alcelaphus buselaphus*, 68
Hartmannella, 38
 see also *Acanthamoeba*
Hartmannellidae, 32
Heartworm disease, 425
Hedgehog, host for *Spirometra*, 309
Heligmosomatoidea, pharynx, 374

540 | Subject index

- Heligmosomoides polygyrus* (= *Nematospiroides dubius*), 417
immunity, 479, 481, 482
infection technique, 417
Heligmosomum see *Nippostrongylus*
- Helminths**
in vitro culture, 505
see also individual species
- Helper cells, 462–3
- Hepatic infections
by Protozoa, 468, 469
immunopathology, 475
- HEPES, 498, 512
- Heron, 305
- Herpetomonas*, 62, 63
- Heterakis gallinarum*, egg-shell, 379
- Heterobilharzia*, 251
- Heterogonic development, 398, 399
- Heterolysosomes, 283
- Heterophyes aequalis*, 230
- Heterophyes dispar*, 230
- Heterophyes heterophyes*, 230
- Heterophyidae, 198, 228
- Heterotrichida, 144
- Heteroxenous life cycle, 11
defined, 97
- Hexacanth embryo, 287
immunity to, 477
- Hexokinase (HK), 28, 29, 233
- Hippopotamus, 68
- Histamine as transmitter, 271
- Histomonas meleagridis*, 52
- Holdfast, Digenea, 254
- Holostephanus lühei*, 185
- Holostephanus volgenesis*, 195
- Holostome (strigeid), 197
- Homogonic development, 398, 399
- Homolactate fermentation
Cestoda, 357
Schistosoma, 268
- Honduras, Chagas' disease, 73
- Hookworms
chemotherapy, 420
in man, literature reviewed, 418
pathology, blood loss, 420
- Hormonal control
of encystment
in *Nyctotherus*, 152
in *Opalina*, 145–7, 148–9
moulting, 149, 152
in nematodes, 381
of sexual maturation
in *Polystoma*, 160, 161, 163, 167–8
in *Pseudodiplorchis*, 163, 167, 168
- Hormones
ecdysteroids, 382
human growth hormone, 5, 310
lactating bitches, 404, 495
mammalian growth hormone, 5, 310
- Horse strain, *Echinococcus*, 351
in vitro culture, 516
- Horse mackerel, *Trachurus*, 163
- Host-finding, Monogenea, 167
- Host–parasite synchronisation, 5, 93, 147
- HSre medium, 493
- 5-HT (5-hydroxytryptamine), 271
- Huffia*, 110
- Human flea, *Pulex irritans*, 65, 342
- Human growth hormone, 5, 310
- Humidity, effect on *Ancylostoma*, 419
- Hyalella azteca*, 452
- Hyalomma*, vectors, 140
- Hyaluronidase, 151, 242
- Hydatid disease, 334–48
alveolar, 339
chemotherapy, 335
control
epidemiology, 336
New Zealand, 338
cyst, 292, 293, 334, 335
distribution, 334
immunodiagnosis, 337
life cycle, 333
literature reviewed, 334
organism, 334
pathology, 335
surgical cases, 338
unilocular, 334
- Hydatigera taeniaeformis* see *Taenia taeniaeformis*
- Hydra*, 154
- Hydrogenosomes
metabolism, *Trichomonas*, 53
in *Pentatrachomonas*, 48
in protozoa, 39
structure, function, 46
- 5-Hydroxytryptamine (5-HT), 271
- Hyena, *Crocuta*, 68
- Hyla* (tree frog), 163
- Hymenolepis diminuta*
ANU strain, 321, 354
carbohydrate metabolism
acidic end products, 254
aerobic/anaerobic
metabolism, 354
ANU strain, 354
strain differences, 353–4
UT strain, 354
comparative development,
rodents, 323
culture
in vitro, 511
technique, 324
cysticercoid, growth, 324
day/night feeding, effects, 323
destrobilation, 476
distribution in rats, 322
growth in rats, 355
gut pH, effects, 15, 16
hosts, 321
human infection, 323
intermediate hosts, 321, 323
intestinal interaction, 14, 15
insemination, 286
life cycle, 322–3
egg hatching, 288
migratory behaviour, 322
lipid metabolism, cholesterol
uptake, 362
- morphology, 322
peptidergic substances, 362, 363
protein metabolism
proline uptake, 360
pyrimidine synthesis, 361
serotonergic nerve elements,
363
strains, 321, 354
- Hymenolepis microstoma*
calcareous corpuscles, 351
carbohydrate metabolism, 354
hosts, 326
in vitro culture, 512
- Hymenolepis nana*
autoinfection, 476
cysticercoids, immunity, 476
immunity, 476–7
in vitro culture, 512
life cycle, 324, 325
growth in mice, 325
in man, 326
nervous system, 285
peptidergic substances, 362
pinocytosis, 284
subspecies, 326
in villus, 326
- Hymenostomatida, 144
- Hyperapolyosis, 282
- Trilocularia*, 296–7
- Hypersensitivity
immediate, 479, 482
in schistosomiasis, 475
- Hypnozoite, 111, 112, 127
- Hypobiosis, 420
- Hypodermis (epidermis), 384
- Hypotrichida, 144, 154
- Hypoxanthine, 499
- Iceland, hydatid disease, 337
- Ichthyophthirius multifiliis*,
149–50
- 'Ideal' parasite, 7
- Ileum, physiology, 13
- Immune attack mechanisms,
Plasmodium, 469
- Immunity
acquired, 461
adaptive, 460–3
antigens, 463–4
recognition, 461–3
anti-parasite responses, 465
coccioidosis, 98
early, 477
epitopes, 461, 464, 470
evasion of, 465
immune responses, 463
immunocytochemistry
Dichidophora, 271, 272
Diphyllobothrium, 271, 272, 362
Hymenolepis diminuta, 271, 363
platyhelminths, 181, 270, 271
immunogens, 46
immunomodulatory factors, 465
immunoreactivities
Cestoda, 271, 362, 363
Nematoda, 448
schistosomes, 475
- Trematoda, 270, 271, 272, 273
late, 477
peptides, platyhelminths,
reviewed, 271
specific host–parasite systems,
466–83
vaccination and diagnosis,
483–90
see also individual species
- Immunoglobulins, 461, 464
IgA, 464, 468, 472
IgE, 464, 474, 475, 479
IgG, 464, 475, 477, 479
IgM, 464, 475
- Immunoparasitology, 460–90
- Immunopathology, schistosomes,
475
- Immunosuppression
of hamsters with *Taenia crassiceps*, 460
of hosts for *Echinococcus multilocularis*, 339
parasite-induced, 470
- In vitro* culture, 491–500
advantages, 491
basic problems, 492
haemoflagellates, 496
helminths, 501
Protozoa, 493–500
supporting matrix, 492
terminology, 491
toxic waste products, 492
see also individual species
- India, 217, 423, 427, 434, 516, 518
prevalence of
Ascaris, *Trichuris*, 390
Fasciolopsis buski, 212
leishmaniasis, 78
- Indonesia, *Taenia*, 390
- Indoxyl acetate technique, 270
- Inflammatory cells, 464, 482
- Inflammatory reactions, 475
intestinal, 480
mediators, 483
- Innate immunity, 460
- Insemination *in vitro*
Ligula, 511
Schistocephalus, 510
- Interferon-gamma, 471, 472
- Intestine
inflammatory changes, listed,
480
oxygen tension, 1
physiology reviewed, 13
- Intracellular protozoa
immunity, 468
Plasmodium, 470
- Intraflagellar bodies, 60
- Iodamoeba bütschlii*, 31
- Iran, 142, 534
- Iraq, 78, 326
- Ireland, 332
- Irradiated larvae as vaccine
preparations, 483–4
- Iscove's modified Dulbecco's
medium, 522
- Isoenzymes
Ascaris, 402

- Diphyllobothrium*, 306
Echinococcus, 336
Entamoeba, 28, 29
Hymenolepis diminuta, 321, 356
 intestinal flagellates, 45
Leishmania major, 79, 80
Leishmania tropica, 79
Ligula intestinalis, 317
Paragonimus westermani, 233
Schistosoma, 243, 244
Trichinella, 393
Trypanosoma, 71, 75
 Isolate, defined, 237
Isoparorchis hypselobagri,
 egg-shell, 185
Isospora, 97–8
Isotricha intestinalis, 154
 Isotype, 461, 474
 Israel, 241
 Isthmus, nematode, 371
 Italy, 78, 331
 Ivermectin
 effects on: 404
 Enterobius, 409
 Loa loa, 428
 microfilariae, 427
 Onchocerca, 430
Ixodes, as vectors, 14
 Japan, 212, 231, 331, 346, 418,
 427
 anisakiasis, 406
 prevalence of *Ascaris*, *Trichuris*,
 390
 strain of *Hymenolepis diminuta*,
 321
 Jerboas, 338
 Jird, 417
 Kala-azar, 76
 Karyotype
 Onchocerca, 341
 Paragonimus, 232
 Trichinella pseudospiralis, 394
 Trichinella spiralis, 394
 Kazakhstan, 260
 Kenya, 78, 518
 Echinococcus isolate, 351
 hydatid disease, prevalence,
 337
 Keratin
 egg-shell, 184, 185, 187
 S–S bonds, 184–7
Kerona pediculus, 154
Kerteszia, 130
 Kidney, *Diocotphyne renale* in, 395
 Kinete, defined, 141
 Kinetofragminophorea (class),
 144
 Kinetoplast, 58
 Kinetoplastida, 43
Klebsiella pneumoniae, 34
Kobus defassa, waterbuck, 68
Kobus kob, kob, 68
 Korea, 231–2
 Krebs cycle
 Cestoda, 357
 Fasciola, 26, 267
 Nematoda, 444–5
 Plasmodium, 121
 trypanosomes, 82
 KW-2 medium, 520
 La Tristerza (babesiosis), 139
 Lambliasis *see* Giardiasis
 Laminated layer, hydatid cyst,
 334, 335
Lankesteria culicis, 89
 Laos, 212
 Lappet, defined, 254
 Large-mouth bass, 452
Laroussius (sandflies), 78
Larus, gulls, 258, 305, 330, 404
 Larva migrans, 401, 404, 405
 Late immunity, 477
 Lavamisole, 404
Laverania, 110
 Leaf monkey, *Presbytis metalophos*,
 427
 Leaf-crowns, in Strongylidae, 418
 Leak-lesion hypothesis, 479
 Lecanicephalidea, 281, 296
Lecythion thalassemae, 89–90
Leidynema, in *Prionaneta*
 americana, 408
Leidynema appendiculata, 407,
 408
 Leishman–Donovan bodies, 76
Leishmania, 75–80, 83–4
 amastigote form, 76
 biochemistry, 83–4
 genus defined, 63
 identification techniques, listed,
 80
 immunity, 468
 in vitro culture, 497
 isoenzymes, 80
 kinetoplast, 77
 morphology, 76–80
 promastigote, 471
 reservoir hosts, 79
 species/subspecies, 76
Leishmania aethiopica, 79
Leishmania amazonensis, 79
Leishmania donovani
 immunity, 471
 life cycle, 77
Leishmania major, 79
 glucose metabolism, 83
 immunity, 471
Leishmania mexicana,
 amastigote–promastigote
 transformation, 77
Leishmania panamensis, 79
 isoenzymes, 79
 vectors, foci, 78
Leishmania peruviana, 76, 79
Leishmania tropica
 life cycle, 77, 79
 vectors, foci, 78
 zymodemes, 79, 80
 Leishmaniasis
 genetically determined factors,
 471
 human forms of, 75
 immunity, 471
 literature reviewed, 76
 mucocutaneous, 76, 79
 transmission, 78
 Lemnisci, 452, 453
 Lens, *Diplostomum metacercariae*
 in, 258, 259
Leptomonas ctenocephali, 62,
 63
Leptophallus nigrovenosus,
 195
Leuciscus, dace, 164
Leucochloridiomorpha
 constantiae, 507
Leucocytozoon, 137–9
 host–parasite synchronisation,
 5, 138
Leucocytozoon neavei, 138
Leucocytozoon simondi, 138,
 139
 Leucylglycylglycine
 aminopeptidase, 233
 Light, effects on egg hatching,
 189, 303
Ligula intestinalis, 316–17
 bird, fish hosts, 316, 317
 copepod hosts, 317
 end-products of metabolism,
 355
 fragments cultured, 511
 in vitro culture, 511
 life cycle, 317
 occurrence, 316
 parasitic castration by, 317
 pinocytosis, 284
 progenetic plerocercoid, 316
Limax, slug, 48, 214
Limnodrilus, 311
 ‘Line’, defined, 237
 Lineweaver–Burke plot, 360
Lintonium vibex, egg-shell, 185
 Lion, *Panthera leo*, 68
 Lipid metabolism
 amoebae, 40
 Cestoda, 361, 363
 Nematoda, 446, 447
 Schistosoma, 270
 Trematoda, 269
 Lipophosphoglycan molecules,
 471
Litomosoides carinii, 423–4
 adult, *in vitro* maintenance, 523
 aerobic metabolism, 444
 carbohydrate/glutamine
 metabolism, 444
 development in mite, 425
 glucose uptake, 443
 glycolytic enzymes, 443
in vitro culture, 520
 life cycle, 424
Littorina littorea, 229
Littorina scutulata, 229
 Liver fluke *see Fasciola hepatica*
 Lizard, *Scalporus o. biseriatus*, 344
Loa loa, 426, 428
 microfilaria
 distribution, 430
 periodicity, 432
 Lobosea, 43
 London, *Toxocara* eggs in parks,
 404
 Loons, 306
Lophius piscatorius, anglerfish, 203,
 299
 Louse, *Trichodectes canis*, 342
Luciopeca lucioperca, perch, 204,
 452
Lumbricus, earthworm, gregarines
 in, 89
 Lung worms, 420
Lutzomyia, as vectors, 78
 Lycophora, defined, 278
Lymnaea, snail, hosts for *Fasciola*,
 208
Lymnaea auricularia, 254
Lymnaea ovata, 219
Lymnaea palustris, 219
Lymnaea peregra, 254
Lymnaea stagnalis, 249
 parasitic castration, 191
Lymnaea truncatula, 208, 219
 Lymphocytes, 461
 Lysosomes, 283
Lytocestus indicus, transamination,
 360
 M-115 medium, 511
 M-199 medium, 506
Macaca mulatta, rhesus monkey,
 433
 Mackerel, horse, *Scomber*
 scombrus, 163
Macracanthorhynchus
 hirudinaceus, 451, 453
Macrodera longicollis,
 egg-shell, 186
Macrolecithus papilliger,
 egg-shell, 185
 Macrophage, 464, 471–2, 474,
 475
 Leishmania in, 76
 Toxoplasma in, 100
 Major histocompatibility complex
 (MHC), 461
 Malaria, 109–35
 aestivo-autumnal, 127
 avian species, 133, 134
 basic biology, 109–35
 control, eradication, 126, 129
 immunity, 468
 life cycle in man, 112
 literature review, 110, 126
 malarial pigment formation,
 112, 123
 malignant tertian, 127
 ovale tertian, 127
 pathological consequences, 470
 periodicity, 113
 pernicious, 127
 quartan ague, 127
 recrudescences, 127
 relapses in man, 112, 117
 simian, speciation, 129
 subtertian, tertian, 127
 transmission, 470
 vaccine research, 127, 469,
 484
 vectors listed, 130
 Malate dehydrogenase, 244
 Malaysia, 390, 427
 Mammalian growth hormone, 5,
 310
Mansonella ozzardi, 426, 428
Mansonella perstans, 426, 428
Mansonella, vector for *Brugia*, 427

542 | Subject index

- Marsupials, host for *Echinococcus*, 338
 Mast cells, 464, 479, 480, 483
 Mastigont system, 45
 Mastigophora (Flagellata), 43
 Maurer's dots, 127, 128
 MBE+HEPES medium, 506
 ME (NADP+ oxidoreductase), *Entamoeba*, 29
 Meadow mouse, *Microtus*, 248
 Meat
 lethal temperatures for *Trichinella*, 393
 source of trichinosis, 390
 Taenia saginata in, 329
 Taenia solium in, 326, 331
 Trichinella in, 390
 Mebendazole, 404, 420, 428
 against *Enterobius*, 409
 against hydatid cysts, 336
 Mediators, 480
 mediated transport, 269
 short-range, 470
 Medium, culture
 169, for *Schistosoma*, 507
 Ae, 520
 API-18, 520
 API-1, 520
 blood-agar base, 497, 512
 Boeck-Drbohlav, 493
 Eagle's, 497
 Earle's saline, 519
 EMEM, 492, 496
 Grace's, 522
 HSre, 493
 Iscove's modified Dulbecco's, 522
 KW-2, 520
 M-115, 511
 M-199, 506
 MBE+HEPES, 506
 MEM:FCS:EBLB, 497
 Morgan-199, 510
 NCTC-105, 503
 NCTC-109, 492, 496, 504, 505, 510
 NCTC-135, 506, 513, 520
 NNN, 497, 512
 Parker-199, 492, 503
 RFN, 520
 RPMI-1640, 492, 496, 504, 505, 510
 RPMI-1650, 503
 S.10E.H., for *Echinococcus*, 512, 514, 517
 saline-serum albumin, 148
 Schneider's *Drosophila*, 522
 Tc5, 520
 TYI-S-33, 494-5
 TYM, 495
Megalodiscus temperatus, 226, 260, 261
 egg-shell, 186
Megaselia halterata (fly), 383
 Mchlis' gland cells, 162-3, 187-8, 263
Melania, snail, 231
Melanogrammus, haddock, 205
Melanoides, snail, 191
 Melarsen oxide, 82
 Membrane
 (contact) digestion, 4, 349, 412
 lamination, 181
 oncosphere, 288, 289
 Merganser, 254, 306
Merlangius merlangus, whiting, 163, 170, 203, 205, 300
Merluccius, hake, 163, 299
 Merogony, 95
 Meromyarian nematode, 370, 384
 Merozoite, 112, 469, 470, 484
 Mesocercaria, *Alaria alata*, 195-6
Mesocestoides corti, 342-4
 asexual reproduction, 282, 344
 calcareous corpuscles, 351
 end-products of metabolism, 355
 in vitro culture, 512-13
 life cycle, 344
 morphological development, 343
 sexual/asexual differentiation, 344, 513
 tetrathyridium, 344
Mesocestoides lineatus, 344
 in vitro culture, 513
Mesocyclops leuckarti, host for *Ligula*, 317
 Metabolic dependence, 3
 Metabolic end-products, protozoa, 39
 Metabolic switch, *Ascaris* larvae, 441, 442
 Metacercariae, 194-6
 in vitro culture, 503-4, 505
 progenesis in, 194, 503
 in *Rana* (Europe), 195
 in *Rana pipiens* (USA), 196
 'Metacestode', 292
 Metacyclic trypanosomes, 70
Metagonimus yokogawi, 230
 Metamitosis, *Acanthamoeba*, 35
 Metasoma, 453
 Metastrongylidae, 420
Metastrongylus apri, vector, swine influenza, 420
 Metronidazole, 48
 Mexico, 73, 75, 78, 331, 390
 MHC molecules, 462
Microbilharzia, 251
Microcotyle labracis, 163
 Microfilaria
 distribution in eye, 430
 identification points, 430, 431
 immunity to, 478
 in vitro culture, 521-2
 Litomosoides, in mite, 425
 Onchocerca, 428, 429
 periodicity, 426, 432
 sheathed, unsheathed, 380, 430
 staining with azo dye, 430
 Micronemes, 69, 97
Microphalloides japonicus
 hosts, 504
 in vitro culture, 503
Microphallus similis
 hosts, 504
 in vitro culture, 503
 Micropore, function, 97
Micropterus dolomieu, bass, 299
 Microspora, 88
 Microtriches
 in cestodes, 283
 in Coccidia, 97
 Microtubules, in *Nyctotherus*
 mitosis, 153
Microtus
 meadow mouse, 248
 vole, 337-8, 341
 Microvilli
 nematode body wall, 383
 in *Nippostrongylus*, 375
 Miescher's tubules, 104
 Migration, in gut
 Diphyllobothrium, 305, 306
 Hymenolepis, 305, 322, 323
 Mink, 395
 Minnows, 256
 brain, penetration, 257
 Phoxinus phoxinus, 164, 169, 204, 257
 Tanichthys albonubes, 317
 Miracidium
 Fasciola, 307
 general account, 190-1
 Schistosomatium douthitti, 190
 Mite
 Galumna, 342
 Ornithonyssus bacoti, 423, 424, 425
 Mitochondria
 amoebae, 25
 'anaerobic', 357, 358
 Leishmania major, 83
 Trypanosoma brucei, 58, 70, 82
 Mitosis, *Acanthocephala*, *Naegleria*, compared, 35
 Models
 Diplostomum spathaceum, 177
 gliding movement, gregarines, 93, 95
 haemoflagellates, 57
 Nyctotheroides, 153
 opalinids, 144
Moniezia benedeni, 342
Moniezia expansa
 electron transport, 359
 metabolism, 355, 358
Moniliformis moniliformis
 (= *dubius*), 451-2
 polyploidy, 455
 Monkey
 Aotus trivirgatus, 131
 malaria in, 110, 131-2
 Presbytis metalophos, 427
 rhesus, *Macaca mulatta*, 433
 Monocercus, defined, 293
 Monoclonal antibodies
 Echinococcus, 334
 Leishmania, 80
Monocystis agilis, 89
 Monogenea
 anatomy, 158
 defined, 157
 in fishes, listed, 163
 host-finding, 167
 immunoreactivities, 272
 reproduction, 166
 ultrastructure, 165
 Monoxenic culture, 491
 defined, 97
 Monozoic worms, *Echinococcus*, 341, 346, 517, 528
Morelia spilotes, python, 401
 Morgan-199 medium, 510
Morone labrax, bass, 163, 204
 Mosquito biting, 111
 Moulting, nematode larvae, 380, 381, 382
 in *Haemonchus contortus*, 382
 in *Nippostrongylus brasiliensis*, 415
 Mouse, red-black (*Microtus*), 248
 Mouse, host for:
 Entamoeba muris, 22
 Haemonchus contortus, 417
 Heligmosomoides, 417
 Hymenolepis diminuta, 323
 Hymenolepis nana, 324, 326
 larva migrans, 406
 Nippostrongylus brasiliensis, 415
 Pelodora strongyloides, 397
 Rhabditis orbitalis, 397
 Spirometra mansonioides, 309, 310
 Syphacia spp., 408
 Toxocara, 406
 Trichinella spiralis, 390
 Trichinella pseudospiralis, 390
 MTT salt, 59
 Mucocutaneous leishmaniasis, 76, 79
 Mucus, 480
Mugil cephalus, mullet, 230
 Mullet
 Chelon labrosus, 229
 Mugil cephalus, 230
Multiceps see *Taenia multiceps*
Multicotyle purvisi, 175-6
 Muscle, as environment, 18
 Muscle cell, platymyarian, 384, 385
 Musk rat, *Ondatra*, 248
 Mussel, *Mytilus edulis*, 204
 Mutualism, 1
Mytilus edulis, mussel, 204
 Myxozoa, 88
 N-dimensional hypervolume, 10
 NAD diaphorase test, 59
Naegleria, 32-6
 compared with *Acanthamoeba*, 35
 cyst, 33, 34
 mitosis, 35
 pathogenesis, 36
Naegleria australiensis, 36
Naegleria fowleri, 32, 36
Naegleria gruberi
 amoeba-flagellate transformation, 33
 morphology, 32, 33
Naegleria jardini, 36
Naegleria lovaniensis, 36
Nanophyetus salmincola, 233
 NANP, repeated amino acid sequence, 469
Natrix (snake)
 host for *Entamoeba*, 31
 host for *Spirometra*, 309

- NBT salt, 59
NCTC-105 medium, 503
NCTC-109 medium, 492, 496, 504, 505, 510
NCTC-135 medium, 506, 513, 520
- Necator americanus***
buccal cavity, 419
distribution, 418
in vitro culture, 519
life cycle, 418
morphology, 418
- Negative binomial, 214
- Nematoda
antigens, source of, 478
biochemistry *see* Nematoda, physiology
classification, 368
aphasmid, 388–96
phasmid, 397–411
phasmid spirurid, 423–47
phasmid stronglylid, 412–22
general account, 368–87
egg hatching, 382
egg-shell structure, 379
exsheathment, 382
feeding, 373
life cycles, 380
reproduction, 378
immunobiology, 477–83
in vitro culture, 517
Krebs (TCA) cycle, 444
physiology, 438–50
amino acid metabolism, 446
carbohydrate metabolism, 438, 440
chemical composition, 439
collagens, 438–9
cytochromes in, 441
filariae, metabolism, 448
food, adults and larvae, 447, 448
haemolymph, 438
hormonal control of ecdysis, 381
larval moulting, 381–2
lipids, 439, 446
neurobiology, 448
nutrition, 447
osmoregulation, 377
oxygen requirements, 440
protein metabolism, 438, 445
respiration, 440
spring rise, 417
structure
body wall, 383
cuticle and epidermis, 383–4
end-on view, 372
excretory system, 377
external features, 371
larval cuticle, 383
microvilli in, 375
muscle-cell organisation, 384
nervous system, 375
neuromuscular system, 376
pharynx types, 364, 373
pseudocoelom, 438
- Nematospiroides dubius*** (= ***Heligmosomoides polygyrus***), 417
- Neoapectana***, 400
Neodiplostomum spathoides, 195
Neoechinorhynchus, in fish, 452
Neoechinorhynchus cylindricus, 452
Neoechinorhynchus rutili, 296, 298, 452
Neoechinorhynchus saginatus, 452
Neonyctotherus reticulatus, 153
Neorickettsia helminthoeca, salmon poisoning, dog, 233
Neoteny, neotenic, defined, 195, 310
Neotoma, rat, 423
Netherlands, anisakiasis in, 406
Neurobiology
Ascaris, 375
Cestoda, 284, 285, 362, 363
Hymenolepis diminuta, 363
Nematoda, 448
Trematoda, 270, 272, 273
Neurocysticercosis, from *T. solium*, 326, 331
Neuromodulators, 364
Neuropeptides *see* Neurotransmitters
Neurosecretory cells
Cestoda, 362
Nematoda, 382
Trematoda, 181, 270
Neurotransmitters
(neuropeptides), 271, 273, 364
New Guinea, *T. solium*, 332
New Zealand
hydatid disease, 337, 338
Ligula, 316
Nicaragua, 73, 75
Niche, defined, 10
Nicotine, induction of encystment, 148
Nigeria
Dicrocoelium, 216
Trichuris, 390
Nina gracilis, 89, 90
Nine-spined stickleback, *Pungitius*, 296, 313
Nippostrongylus brasiliensis, 412–15
cytology, 414
development in mouse, 413
immunity, 416, 479
in vitro culture, 519
life cycle, 414
morphology, 412, 413
osmotic pressure effect, 377
Nippotaenia, 281, 300
Nitrate–molybdate stain, 186
Nitric oxide, as killing factor, 471, 475
Nitro MT, NAD test, 69
NNN medium, 497, 512
Noguchi–Adler test, 80
Nosopsyllus fasciatus, rat flea, 64, 65
Notocotylidae, 185
Novyella, 110, 134
Nucella lapillus, dog-whelk, 226–7
Nuclear constancy, eutely, 455
Nucleic acid metabolism, amoebae, 40
Nutritional dependence, 4
levels in life cycles, 19
Nyctotheroides puytoraci, 153
Nyctotherus cordiformis, 5, 145, 152–3
in vitro culture, 496
Nyctotherus ovalis, mitosis model, 153
Nyssomyia, vectors of leishmaniasis, 78
Nyssorhynchus, 130
Obligate parasites, 6
Octomacrum lanccatum, egg-shell, 185
Octosoma scombri, 170, 172
Octopamine, 27
Ocular larva migrans, 406
Oesophagostomum radiatum, *in vitro* culture, 520
Ogmocotyle indica, egg-shell, 185
Ohio strain, *Hymenolepis diminuta*, 321
Oligoacanthorhynchus tortuosa, 455
Oligochaetes, hosts for cestodes, 311
Oligohymenophorea, 144
Onchocerca, in vector, 522
Onchocerca cervicalis, 430
Onchocerca gibsoni, 430
Onchocerca gutturosa
chromosomes, 431
in vitro culture, 520
Onchocerca linealis, 425, 429
Onchocerca volvulus
blindness due to, 429
chromosomes, 432
glycolytic enzymes, 443
in vitro culture, 521
life cycle, 428, 429
vectors, 426
Onchocerciasis
animal models, 430
control, 429
literature reviewed, 428
pathology, 429
Oncomiracidium, 161, 166, 169, 170
Oncosphere, 287, 288, 289
in vitro culture, 512
membrane, 288, 289
Ondatra, musk rat, 248
Oocyst, 95, 96
Oogenotop, 183, 184
Opalina ranarum, 145–8
effect of hormones on, 149
host–parasite synchronisation, 147
in vitro culture, 148, 496
life cycle, 5, 145, 146
RNA synthesis, 148
Opalina sudafricana, *in vitro* control of life cycle, 148
Opalinata, 43, 144–8
Ophiotaenia filaroides, 296
Ophryoscolex, 154
Opisthoglyphe ranae, 221, 225
Opisthodiscus nigrivasis, 221
Opisthomastigote, 61, 62
Opisthorchiidae, 185, 198
Opisthorchis (= ***Clonorchis***) ***sinensis***, 212, 212–13
egg-shell formation, 185
immunology, 476
in vitro culture, 507
life cycle, 213
Opisthorchis felinus, 213
Opisthorchis viverrini, 213
Opossums, 455
Dasyurus, 74
Didelphis, 75
Opsonisation, 476
Orchispirium heterovittellatum, egg-shell, 185
Oriental sore, 79
Ornithonyssus bacoti, mite, 423, 424, 425
Orthocoeilium scolicoeium, *in vitro* culture, 507
Osmotic pressure
effect on *Entamoeba*, 38
egg hatching, 189
Ostertagia ostertagia, 417
in vitro development, 519, 520
Ostiole, 36
Ostrea lutaria, oyster, 204–5
Overdispersion, *Schistocephalus*, fish, 314
Ovoviviparous, defined, 167, 386
Oxamniquine, 475
Oxidation–reduction, in *in vitro* culture, 494
Oxygen
in gut mucosa, 15, 16
in habitats of parasites, 15
Oxygen radicals, 480
Oxytocin, 273
Oxyurida (order), 369, 407
egg-shell, 379
Oxyuroids
in cockroach, 408
in mice, 409
in rats, 409
Oyster, ***Ostrea lutaria***, 204–5
parasitic castration, 205
P substance, 271
Pakistan, 78, 432
Palaeacanthocephala, 457
PAM (primary amoebic meningoencephalitis), 36
Panagrellus silusiae, pharynx, 373
Panama, 73, 178
Pancreatin, 291
Panstrongylus megistus, 75
Panthera leo, lion, 68
Paracalanus parvis, 299
Parafossarulus manchouricus, 213
Paragonimus iloktsuenensis, karyotype, 232
Paragonimus pulmonalis, 232, 233

544 | Subject index

- Paragonimus sadoensis***, karyotype, 232
Paragonimus westermani, 230–3
 diploid, triploid forms, 232, 233
in vitro culture, 507
 isoenzymes, 233
 karyotype, 232
 life cycle, 230, 231
 morphology, 230
 speciation, 232
 Paraguay, 73, 78
 Paraldehyde fuchsin, 270, 382
Paralepiderma cloacicola, 195
Paramoeba, 22
 Paramphistomatidae, 186, 198
Paramphistomum cervi, egg-shell, 186
Paraphlebotomus sergenti, 78
 Parasitic castration *see* Castration
 Parasitism, defined, 1, 3
 Parasitophorous vacuole, 113
Paratelphusa, 232
 Paratenic hosts, for:
 Acanthocephala, 451
 Diphyllobothrium, 305
 Spirometra, 309
 Parenchyma, 284
Paricterotaenia paradoxa, 293
 Parker-199 medium, 492, 503
Parorchis acanthus
 life cycle, 226, 227
 morphology, 225
 Paruterine organ, 343
Parvatrema homoeotecnum, 196
Parvatrema timondavidi
 hosts, 504
in vitro culture, 503, 504
 Pelican, 305
 Pellicle, in Coccidia, 96
Pelodera strongyloides, 397
Pentatricomonas hominis
 basic data listed, 48
in vitro culture, 494
 Pentose phosphate pathway
 Cestoda, 359
Plasmodium, 120
 Pepsin, 291
 Peptide cells, 162
 distribution in trematodes, 272
 Peptides
 antiserum, listed, 271
 function, 272
 immunoreactivities
 in Cestoda, 362
 in Platyhelminthes, 271
 peptidergic molecules
 Hymenolepis, 363
 nervous system, *Diclidophora*, 272
 synthetic, 484
 see also Neuropeptides
 Perch, *Lucioperca lucioperca*, 204, 452
 Perienteric fluid, 438
 Perikarya, 178, 283
 Periodicity, microfilariae, 432
Periplaneta americana, *Leidyneema* in, 408
 Peritoneal cavity, as habitat, 19
 Perkinsia (class), 88
Peromyscus maniculatus, deer mouse, 248
 in California, 417
 Peru, 73, 75
 pH
 alimentary canal, rat, 15, 16
 role in nematode egg hatching, 382
Phacochoerus aethiopicus, warthog, 68
 Phagolysosomes, 471
 Phasmid, 368, 373, 376
 defined, 368
 Phasmid Nematoda, 397–422
 Phasmeida (Secernentea), 369
 Pheasants, 420
 Phenolase (polyphenol oxidase), 184–6, 187, 188
 Phenols
 in egg-shell, 184–5
 staining Fast Red Salt B, 167
 in vitellaria, 187
 Philippines, 245, 390, 418
 Taenia speciation, 332
Philophthalmus, CAM culture, 507
Philophthalmus megalurus, egg-shell, 186
Phlebotomus, as vectors, 78
Phlebotomus argentipes, 77
Phocanema decipiens *see* *Pseudoterranova decipiens*
 Phoresis, 1, 2
 Phosphoglucomutase
 Entamoeba, 29
 Schistosoma, 244
 6-Phosphogluconate
 dehydrogenase, 80, 244
Phoxinus phoxinus, minnow, 164, 169, 204, 257
Physa, snail, 190, 249
 Pig
 bush pig, *Potamochoerus*, 393
 host for: *Macracanthorhynchus hirudinaceus*, 451, 453
 Pig, host for:
 Ascaris, 403
 Diphyllobothrium, 307
 Fasciolopsis, 212
 Macracanthorhynchus hirudinaceus, 451
 Metastrongylus, vector of influenza, 420
 Spirometra, 309
 Taenia solium, 331, 332
 Trichinella, 332, 390, 392
 Pigeon, host for *Schistocephalus*, 313
 Pinocytosis
 in Cestoda, 349
 channel, 24
 in *Entamoeba*, 38
 Pinworm, 409
Piroplasmia, 89, 139–42
 Pituitary, effect of *I.igula*, 317
 Placental digestion, Trematoda, 265
 Plagiorchiidae, 186, 198, 219
Plagitura salamandra, 190
Planorbis, 214, 260
 Plasmalemma, 24
 Plasmodiidae, 109
Plasmodium, 109–24, 126–43
 biochemistry/physiology, 119
 carbohydrate metabolism, 119
 CO₂ fixation, 119
 glucose metabolism, 120
 lipid metabolism, 122
 nucleic acid metabolism, 122
 protein metabolism, 133
 characters compared, 128
 chromosomes, 118
 classification, 110
 erythrocyte
 invasion, 111
 stages, as vaccines, 484
 feeding, 119
 fertilisation, 114
 gametocyte, ultrastructure, 114
 genome, 118
 hosts
 amphibian, 135
 avian, 133–4
 man, 111, 112, 127
 reptilian, 135
 rodent, 133
 simian, 129–32
 immunity, 468
in vitro culture, 487, 497–500, 498, 499
 candle-jar culture, 498
 EE stages, 500
 life cycle
 DNA content in, 118
 EE stages, 112
 gametogenesis, 113
 schizogony, 111, 113
 meiosis, 118
 Mendelian crossing, 117
 merozoite
 as antigen, 470
 ultrastructure, 115
 mitochondrion, 116
 metabolism, 121
 molecular biology, 123
 ultrastructure, 114, 115
see also Malaria
Plasmodium acgyptensis, 133
Plasmodium anomaluri, 133
Plasmodium atheruri, 133
Plasmodium bastianellii, 129, 133
Plasmodium berghei, 110, 132
 antigenic variation, 470
 hosts, vectors, 133
 immunity, 468
in vitro culture, 499, 500
 life cycle, 132, 133
Plasmodium booliati, 133
Plasmodium brasilianum, hosts, 131
Plasmodium cathemerium, 110
 gametocyte, 116
 hosts, vectors, 134
 stages, 134
Plasmodium ceylonensis, 133
Plasmodium chabaudi, 110, 132, 133
 antigenic variation, 470
 hybridisation, 117
Plasmodium circumflexum, hosts, vectors, 134
Plasmodium coatneyi, hosts, vectors, 131, 136
Plasmodium cynomolgi, hosts, vectors, 110, 131
 transmission to man, 110
Plasmodium elongatum, hosts, vectors, 134
Plasmodium eylesi, hosts, vectors, 131
Plasmodium falciparum
 candle-jar culture, 497
 characteristics, 128
 cytochromes, 121
 knob-like structures, 470
 pathology, 113
 stages, 127
Plasmodium fieldi, hosts, 131
Plasmodium fragile, hosts, 131
Plasmodium gallinaceum, 110, 134, 135
Plasmodium gonderi, hosts, 131
Plasmodium inui, hosts, 131
Plasmodium juxtannucleare, hosts, vectors, 134
Plasmodium knowlesi, 110, 131, 470
Plasmodium landauae, 133
Plasmodium lophurae, stages, 134, 135
Plasmodium malariae
 characteristics, 128
 stages, 127
Plasmodium ovale, characteristics, 128
Plasmodium pulmophilum, 133
Plasmodium reichenowi, hosts, 131
Plasmodium relictum
 hosts, vectors, 110, 134
 hosts vectors, stages, 134
Plasmodium rodhaini, hosts, 129, 131
Plasmodium schwetzi, hosts, 129, 131
Plasmodium simium, hosts, 131
Plasmodium vinckei, hosts, vectors, 133
Plasmodium vivax
 characteristics, 128
 relapses in man, 112
 stages, 127
Plasmodium watteni, 133
Plasmodium yoelii, 110
 cytochromes, 121
 exflagellation, 115
 hosts, vectors, 133
 Platyhelminthes
 classification, 157
 immunity, 473
 neuroreactivities, tabulated, 271
 Platymyarian, muscle cell, 384, 385
Plectanocotyle gurnardi, 163

- Plerocercoid
 defined, 292, 293
 growth factor, 5, 310
 pathogenetic in fish, 304
 progenetic, 312, 316
- Pleurogenes claviger**, 185, 221
- Ploidy, in:
 Acanthocephala, 455
Ichthyophthirius, 149
 trypanosomes, 71
- Poland, 331
- Polycercus, defined, 293
- Polychaete worm, *Arenicola ecaudata*, 91
- Polyembryony, 197, 207
- Polymenophorea, 144
- Polymorphism
 in CS protein sequences, 484
Leishmania major, 80
Trypanosoma brucei, 69
- Polymorphus**, 451
- Polymorphus minutus**
 body wall, 454
 developmental stages, 457
- Polymyarian nematode, 384
- Polyphenol oxidase, 184–8
- Polyploidy
 in Acanthocephala, 455
 in *Ichthyophthirius*, 149
- Polyrhaddina spionis**, 89, 90
- Polystoma integerrimum**
 digestive system, 160
 egg-shell, 185
 general account, 159
 host specificity, 159, 221
 host–parasite synchronisation, 5
 life cycle, 160, 161
 neotenic adult, 160
 normal adult, 159
 reproductive system, 160
- Polystoma nearcticum**, 163, 165
- Polystoma pelobatis**, 163
- Polystomoides**, egg-shell, 185
- Polystomoides oris**, 167
- Polyzencic culture, 491
- Pomphorhynchus**, in fish, 452
- Ponos (leishmaniasis), 76
- Populations of parasites, 1
- Pork
Taenia solium in, 326, 331
Trichinella in, 390
 lethal temperatures, 393
- Porrocaecum ensicaudatum**, egg-shell, 379
- Portal hypertension, 475
- Posterior station, 64
- Posthodiplostomum minimum**, *in vitro* culture, 503
- Potamochoerus**, bush pig, 393
- Potamon**, 232
- Praesoma, defined, 453
- Praziquantel, 475
- Prednisolone tertiary butylacetate, 339
- Pregnancy, hormones, 149
- Premetacyclic trypanosomes, 70
- Presbytis metalphos**, leaf monkey, 427
- Pricea multae**, egg-shell, 185
- Primary amoebic meningoencephalitis (PAM), 36
- Primite, syzygy, 93
- Proceroid
 defined, 293
Diphyllobothrium, 304, 305
- Proctoeces subtenuis**, egg-shell, 185
- Procyon lotor**, raccoon, 6, 393
- Progenesis, defined, 196, 310
- Progenetic cercaria, 191, 192
in vitro culture, 503–4 505
 metacercariae, 196
 plerocercoids, 312, 316, 509
 proceroids, 293, 310, 311
- Proglottid(is), 282, 302
- Proline
 aminopeptidase, 80
 in trypanosome metabolism, 82
 uptake by *Hymenolepis*, 360
- Promastigote, 61, 62
- Promitosis, *Naegleria*, 35
- Prosimulium hirtipes**, blackfly, 138
- Prosorhynchus crucibulum**, 204
- Protococcus confusus**, 221
- Protococcus fuelleborni**, 221
- Protease, activity, 382
 Nematoda, 445
 Trematoda, 265
- Protective responses,
 schistosomes, 475
- Protein metabolism
 amoebae, 39
 Cestoda, 352
 egg-shell formation, 185
 Nematoda, 445
 structural proteins, 184
 reviewed, 184, 185
 Trematoda, 268
- Proteocephalidea, defined, 296
- Proteocephalus ambloplitis**, 296, 298
 pathology in fish, 299
- Proteocephalus filicollis**, 298
- Proteocephalus osculatus**, 297
- Proteocephalus torulosus**, 298
- Protoopalina intestinalis**, 145
- Protomerite, 90, 91, 93
- Protomicrocotyle**, egg-shell, 185
- Protopolystoma xenopodis**
 egg-shell, 185
 larva, 161
- Protoscolecetes, 292, 334
- Protozoa
 classification, 42–3
 immunity, 466
in vitro culture, 493–6
- Psammoryctes**, tubificids, 311
- Pseudaxine trachuri**, 163
- Pseudoapolytic, defined, 282
- Pseudobulb, defined, 371
- Pseudocalanus elongatus**, 299
- Pseudocoele, 385, 401, 402, 438
- Pseudocysts, *Toxoplasma*, 102
- Pseudodiplorchis americanus**, 6, 166–8
 host/parasite synchronisation, 163
- Pseudophyllidea, 281–2, 302–30
 progenetic plerocercoids, 312, 316
- Pseudopodia, *Entamoeba*, 27–8
- Pseudosuccinea**, snail, 190
- Pseudosuckers, 254
- Pseudotolphusa**, 232
- Pseudoterranova** (= **Phocanema**) **decipiens**, 382, 406, 407
- Psychodopygus wellcomei**, 78
- Pulex irritans**, human flea, 65, 342
- Pungitius**
 stickleback, nine-spined, 296, 313
see also Sticklebacks
- Purine
 salvage, *Plasmodium*, 122
 synthesis, flagellates, 40
- Pyrantel, 404, 409, 420
- Pyrimidine synthesis
 amoebae, 40
Plasmodium, 122
- Python, *Morcia spilotes*, 401
- Quartan malaria, 113
- Queensland, 353
- Quinone tanning of eggs, 184
 Cestoda, 288
 Nematoda, 379
 Trematoda, 185–6, 187, 188, 269
- Rabbits, host for:
Cysticercus pisiformis, 340
Haemonchus contortus, 417
- Raccoon (*Procyon lotor*)
Sarcocystis, 6
Trichinella pseudospiralis, 393
- Radix**, snail, 208
- Raia**, host for *Grillotia*, 299
- Raillietina cesticillus**, 350
- Rainbow darter, 452
- Rajonchocotyle batis**, egg-shell, 185
- Rana arvalis**, 219
- Rana breviceps**, 145
- Rana dalmatina**, 219
- Rana esculenta**
 adult trematodes in, 221
 metacercaria in, 195, 196
- Rana limnocharis**, 145
- Rana pipiens**
 adult trematodes in, 226
 metacercariae in, 196, 226
- Rana ridibunda**, 219
- Rana temporaria**
 adult trematodes in, 221
 metacercariae in, 195, 196
- Rana tigrina**, 145
- Ranilla (babesiosis), 139
- Rat
 host for:
Cryptocotyle lingua, 229
Diphyllobothrium dendriticum, 306
Giardia, 50
- Heligmosomoides polygyrus**, 417
- Hymenolepis diminuta**, 321
- Litomosoides**, 423
- Moniliformis moniliformis**, 451
- Nippostrongylus brasiliensis**, 416
- Paragonimus iloktuensis**, 232
- Schistocephalus solidus**, 313
- Syphacia**, 408
- Trichosomoides**, 394
- Neotoma**, 423
- Sigmodon hispidus**, 423, 424, 424
- Thamnomys rutilans**, thicket rat, 117, 133
- Rat flea
Nosopsyllus fasciatus, 64, 65
Xenopsylla cheopis, 65
- Raven, 305
- Ray *see* Raia
- Ray bodies, 141
- Receptors, Cestoda, 285
- Red blood cells, and immunity, 468
- Red-black mouse, *Clethrionomys*, 248, 338
- Redia, ultrastructure, 191
- Redunca redunca**, reedbuck, 68
- Reduviids, 68
- Redwater fever, 139
- Redbuck, **Redunca redunca**, 68
- Regulatory peptides, 270, 271, 273
- Repertoire, defined, 60
- Reptilian malaria, 135
- RESA, antigens, 484
- Reserve bladder system, 257
- Reservoir, defined, 60
- Respiratory burst, 471
- Retrofection, *Enterobius*, 409
- RFN medium, 520
- Rhabdias americana**, 399
- Rhabdias bufonis**, 398, 400
- Rhabdias ranae**, 399
- Rhabdiform organelles, 283
- Rhabditida, 369, 374, 397
- Rhabditidae, 397
- Rhabditin, 375
- Rhabditis maupasi**, 369–71
 culture from earthworms, 372
in vitro culture, 370
 morphology, 370
- Rhabditis orbitalis**, in mouse, vole, 397
- Rhabditoidea, pharynx, 374
- Rhesus monkey, *Macaca mulatta*, 433
- Rhipicephalus**, as vectors, 140
- Rhizopoda, 43
- Rhodnius pictipes**, 73
- Rhodnius prolixus**, 73, 75
- Rhoptries, antigens, 86, 97, 484
- Ribosomes, 24, 59
- Richefond valley, St Lucia, schistosomiasis, 246
- River blindness, due to
Onchocerca, 425, 428, 429
 in Zaïre, 430

546 | Subject index

- RNA
in *Echinococcus*, 351
in neuropeptide synthesis, 273
in *Taenia crassiceps*, 361
Roach, *Rutilus rutilus*, 164, 316, 452
Rodent malaria, 132
Romana's sign, 75
Rostellum, 282, 285
RPMI-1640 medium, 492, 496, 504, 505, 510
RPMI-1650 medium, 503
Rumen, ciliates, 153, 154
gases, 17
other protozoa, 6
Russia, 307, 313, 316, 331
Rutilus rutilus, roach, 164, 316, 452

S.10E.H. medium, 512, 514, 517
S-S bonds, keratin, 184-7
St Lucia, schistosomiasis, 245, 246
Salicylhydroxoamid acid, SHAM, 82
Saline-serum albumin medium, 148
Salivaria (section)
defined, 64, 68
in vitro culture, 496
Salmon, 452
smoked, anisakiasis in, 406
Salmon poisoning, dog,
Neorickettsia helminthoeca, 233
Salvage pathway, *Entamoeba*, 40
Sample, term defined, 237
Sandflies, *Laroussius*, 78
Sanguicolidae, 236
Sarcocyst, 104, 105
Sarcocystis cruzi, 104, 105
Sarcocystis hominis, 105
Sarcocystis suihominis, in man, 105
Sarcodina (Amoebae), defined, 43
Sarcomastigophora, defined, 42
Sarcopile, 376
Sarcoplasmic zone, 384
Satellite, 91
Saudi Arabia, 432
Sausage, *Trichinella* in, 390
Scalporus occidentalis biseriatus, fence lizard, 344
Scaphiopus couchii, spadefoot toad, 5, 163, 168
Scheloribates, mites, 342
Schistocephalus solidus, 312-16
adult
female genitalia, 314
hosts, 313
insemination in vitro, 286, 510
life cycle, 312, 315
metabolic end-products, 355
plerocercoid
effect on fish behaviour, 315, 316
effect on ovaries, 314
frequency distribution in fish, 314
in vitro culture, 313, 509, 510
morphology, 312
peptidergic substances, 362
pinocytosis, 284
survival of fish, 316
Schistocerca gregaria, 93
Schistosoma, 236-53
antigens on tegument, 473
chemical composition, 264
homosexual pairing, 238
hybridisation, 251
hydrolytic enzymes, 265
metabolism, 266-70
neurobiology, 270-3
nutrition, 263-6
pathogenic species, 236
single-sex infections, 250
tegumental feeding, 263
Schistosoma bovis, 236, 246
Schistosoma capense, 244
Schistosoma haematobium, 243-5
enzymes, 265
in vitro culture, 507
mollusc hosts, 244
pathology, 244
strains, 243
Schistosoma incognitum, 236
Schistosoma intercalatum, 236, 244, 246
Schistosoma japonicum, 245, 254
egg production, 268
egg-shell histochemistry, 186
growth in mice, 250
isoenzymes, 244
Schistosoma mansoni, 237-43
cercariae
emergence, 241
escape glands, 191
maturation, 242-3
penetration, 239, 242
tegument, 181
eggs, as antigens, 475
enzymes, 191, 243, 244, 265
flame-cell formula, 181-2
genetics
intraspecific variation, 237, 243
variation, 243
growth
growth factor, 310
growth in mice, 250
growth stages, 508
hosts, 237, 241, 243, 244
immunity, 473
laboratory maintenance, 240
in vitro culture, 506-7
life cycle, 239
cercaria-schistosomulum transformation, 181, 238, 243
hosts, 237, 243
sporocyst-cercaria transformation, 242
metabolism, 266-70
miracidium, 240, 241
pathology reviewed, 237
reproduction
artificial females, 238
male/female interaction, 237-8, 269
pairing, 236, 238
shell histochemistry, 186
system, 236, 237
schistosomulum
adaptations, 243
immunity to, 475
surface antigens, 474
tegument, 181
vulnerable stage, 474
transplanting of adult, 473
ultrastructure, 238
Schistosoma margrebowiei
carbohydrate metabolism, 268
distribution, 246
Schistosoma mattheei, 236, 246
Schistosoma mekongi, 236, 245
Schistosoma rodhaini, 246, 265
Schistosoma spindale, 246
Schistosomatidae, 186, 236-53
Schistosomatium douthitti, 246-51
cercariae, 247, 249
growth in mice, 250
hosts, 246, 248-9
in vitro culture, 507
karyotype, 248
maintenance techniques, 240
miracidium, 190
morphology, 247
single-sex infection, 250-1
Schistosomiasis (bilharziasis)
control, 246
distribution, 236
hypersensitivity, 475
immunity, 473
literature reviews, 236
Richefond valley, St Lucia, 246
vaccination, 484
as a world problem, 245
Schistosomin, 191
Schneideria schneideri, 92
Schneider's *Drosophila* medium, 522
Schuberti barb, *Barbus sachsii*, 317
Schüffner's dots, 127
Sclerotin, in egg-shell, 184, 188
Scolex
glands, 305
types, 282
Scomber scombrus, mackerel, 163
Sciurus, squirrel, 423
Secernentea, 369
Segments, 282
Self cure reaction, 415, 479, 482
Self-insemination, 286, 287, 337
Semisulcospira libertina, 231
Senegal, 78
Sensilla, 376
Serodeme, 61
Serotonergic nervous system
Dictidophora, 272
Hymenolepis, 363
Serotonin, 71
Setaria cervi, metabolism, 442
Sewage, *Taenia* eggs, 327, 330
Sexual/asexual differentiation
Echinococcus, 512, 513, 514
Mesocostoides, 344, 513
SHAM, salicylhydroxoamid acid, 82
Shedding, of larval body, 306
Sheep, host for:
Dicrocoelium, 215
Echinococcus
chemical composition, 353
cultured in vitro, 516
hydatid cysts, distribution, 338
Fasciola, 205-12
Haemonchus, 416-17, 485
Nematodirus, 381
Trichostrongylus, 417, 485
Sigmodon hispidus, cotton rat, 423, 424
Signal, for excystment, 4
Simian malaria, infectivity to man, 131
Simulium, as vectors, 137
Simulium damnosum, vector of
Onchocerca, 429
Skate, 170
Skin
penetration, *Schistosoma*
cercaria, 270
 pO_2 , 17
Sleeping sickness, 68
pathology, 71
Slimeball, *Dicrocoelium*, 215
Slug, *Limax*, 48, 214
Snail
Lymnaea, hosts for *Fasciola*, 208
Melania, 231
Melanoides, 191
Pseudosuccinea, 190
Radix, 208
Stagnicola, 249
Tricula aperta, 245
Snake, *Natrix*
host for *Entamoeba*, 31
host for *Spirometra*, 309
Soil amoeba, 32-5
Spadefoot toad, *Scaphiopus couchii*, 5, 163, 168
Spain, *Taenia solium*, 331
Sparganosis, 309, 310
Sparganum (= plerocercoid), 4, 5, 309
Spathebothriidea, 281
Sphaeridiotrema globulus, 194, 504
in vitro culture, 503, 505
Sphaerocrystals, 375
Spirocera lupi, 434
Spirometra erinacei, 4, 5, 410
plerocercoid growth factor, 4, 5
Spirometra mansoni, 310
Spirometra mansonioides, 309, 309-11, 310
end-products of metabolism, 355
hosts, 309
in vitro culture, 511
life cycle, 309
plerocercoid growth factor, 4, 5, 310
uptake of ^{57}Co -vitamin B₁₂, 310

- Spirorchidae, 236
Spirurida, 423–37
 defined, 369
Splenic fever, babesiosis, 139
Splenomegaly, 475
Spontaneous cure reaction, 415, 479, 482
Sporocyst, Trematoda, 191
 branching, 204
Sporocystogenesis, 242
Sporozoa, 88–143
Sporozoite
 immunity to, 468
 surface antigen, 468–9
 vaccine for *Plasmodium*, 484
Spring rise, Nematodes, 417
Squalus acanthias, dogfish, 296, 297
Squirrel, *Sciurus*, 423
Sri Lanka, 27, 418
S–S bonds 184, 184–7
Stabchensaum, 375
Staggers, 332
Stagnicola, snail, 249
Starry flounder, 452
Steinina ovalis, 88
Stereocaria
 defined, 64, 67
 trypanosomes, *in vitro* culture, 497
Sterility, *in vitro* culture, 491, 492
Stichocytes, 388
Stichosome, 369, 388, 389, 391, 481
Stickleback, host for:
 Diphyllobothrium, 302, 304
 Diplostomum, 258
 Gyrodactylus, 164
 Neoechinorhynchus, 296
 Schistocephalus, 312, 314, 316
Stickleback, nine-spined,
 Pungitius, 296, 313
Stickleback, three-spined,
 Gasterosteus, 313, 314
Stilesia, 277
Stock, term defined, 60
Strahlenkörper, 141
Strain
 defined, 237
 Echinococcus granulosus, 336, 337
 Fasciola hepatica, 206
 formation of, 287, 337
 Hymenolepis diminuta, 321
 intestinal flagellates, 45
 strain-specific immunity,
 Plasmodium, 468
 Taenia crassiceps, 341
Strigea elegans, 196, 226
Strigeidae, 198, 254–7
 holostome, 197
 in vitro culture, 503–6
 structural proteins, 186
Strobilocercus, 292, 342
Strongylida
 families, 369, 415–16
 in vitro culture, 520
Strongylidae, 418
Strongyloides stercoralis
 hosts, 397
 life cycle, 399
 morphology, 398
Strongyloidiasis, 398
Strongyloididae, 397–8
Strongylus, *in vitro* culture, 520
Strongylus equinus, 383
Sturgeon, *Acipenser*, 278
Substance P, 271
Succus entericus, 13
Sudan, 78
Superoxide dismutase, 46
Suramin, drug, 82
Surface antigens, 476
Surface coat
 trypanosomes, 57
 variant specific glycoproteins
 (VSG), 58
Suriname, 73
Sweden, 307
Swimmers' itch, 251
Swine *see* Pig
Switzerland, 307, 340
Symbiosis, 6
Synapses, 181
Synchronisation, host–parasite,
 5–6
 gregarines, 91–2
 Leucocytozoon, 5, 138
 Nyctotherus, 5, 152
 Opalina, 5, 146–7
 Polystoma, 5, 163
 Pseudodiploporchis, 5, 169
Syncoelium spathulatum,
 egg-shell, 185
Syngamidae, 416, 420
Syngamus, turkey, 420
Synphlebotomus martini, 78
Syphacia, 408
Syphacia muris, 408, 409
Syphacia obvelata, 408, 409
Syzygy, 88, 89
 primitie, 93
T cells, 461, 471–2, 479–80,
 481–2
T-cell receptor, 461
T-helper cells, 482
Tachyzoites, 101, 102
Taenia
 genitalia, morphology, 328
 immunity to, 476–7
 in vitro culture, 517
 use of DNA probes, 328
Taenia crassiceps
 glucose uptake, 354–5
 life cycle, morphology, 341
 pinocytosis in, 284
 strains, 341
Taenia hydatigera, 484
Taenia multiceps, 332–3
Taenia ovis, immunity, 484–5
Taenia pisiformis (*T. serrata*),
 340
 development in carnivores, 341
 egg hatching, 291
 in vitro culture, 517
Taenia saginata
 cattle infected, 327, 330
 compared with *T. solium*,
 327–8, 329
 distribution, 327
 eggs
 hatching, 291
 oncosphere penetration, 330
 in sewage, 327, 330
 human infection, 330
 life cycle, 328, 329
 morphology, 327
 ruminant hosts, 330
 speciation, Taiwan *Taenia*, 328,
 3320
Taenia serialis, 333
Taenia serrata see Taenia
 pisiformis
Taenia solium, 328, 330–2
 antibodies to, 332
 compared with *T. saginata*,
 327–8, 329
 human infection, 332
 life cycle, 331
 literature reviewed, 331
 in measly pork, 326
 occurrence, 331
 pathology, 332
 proglottis, 329
 speciation, Taiwan *Taenia*, 328,
 332, 338
Taenia taeniaeformis
 (***Hydatigera***
 taeniaeformis), 341–2
 calcareous corpuscles, 351
 glucose uptake, 354
 immune attack, 477, 484–5
 taeniasis, in man, reviewed, 326
Taeniidae, 326–42
 egg hatching, 291
 in vitro culture, 517
 Taiwan, 212
 aberrant *Taenia*, 328, 332, 338
Tanichthys albonubes, White Cloud
 Mountain minnow, 317
Tapeworms *see* Cestoda
Tapir nose, 79
Tasmania, hydatid disease, 337
Taurine congenates, 210
Taxonemes, 97, 100
Te5 medium, 520
TCA *see* Krebs cycle
Tegument
 cercaria, 181
 Cestoda
 ultrastructure, 282, 283
 uptake, 283
 Digenea, 159, 178, 181
 Fasciola, 180
 Schistosoma, 181
 tegumental feeding, 263
 immune damage to, 477
Temora longicornis, 299
Temperature effects
 Ancylostoma larvae, 419
 cestode maturation, 4
 egg hatching, 189
 Entamoeba growth, 28
 gregarine sporulation, 94
 snail development, 208
Tenebrio molitor, 321, 324
Terebratorium, 240, 241
Testosterone propionate, 149
Tetracotyle, 195
Tetraphyllidea, 281, 296
Tetrathyridium, Mesocoeloides,
 282, 342, 344
Tetrazolium salts, 59
Texas fever, 139
Thailand, 212, 245, 390, 427
Thames (river), tubifid species,
 311
Thamnomys rutilans, thicket rat,
 117, 133
Theileria annulata, 142
Theileria parva, 142
Theileriosis, vaccines, 483
Thelastoma, 408
Thelazia, 434
Theront, defined, 150
Thiabendazole, 420
Thysanoessa, anisakiasis in, 406
Tick fever, 139–42
 vector, *Babesia canis*, 141
TNF, tumour necrosis factor,
 469, 471, 475
Toad
 Bufo, 219
 Scaphiopus couchii, 5, 163, 168
 Xenopus, 161
Tomite, defined, 150
Tomont, defined, 150
Toxocara canis
 eggs in parks, London, 404
 in mice, 406
 larva migrans, 401, 405–7
 life cycle, 401, 404, 405
Toxocara cati, 407
Toxocariasis
 animal models, 404
 control, 406
 mouse, 406
 pathology, 404
 reviewed, 404
Toxoplasma gondii, 99–104
 development in cats, 101, 103
 discovery of life cycle, 100
 endodyogeny, 102
 immunity, 103, 468, 472–3
 in vitro culture, 500
 life cycle, 101
 in macrophage, 100
 oocysts, 472
 paratenic hosts, 102
 tissue cysts, 472
 ultrastructure, 100
Toxoplasmosis
 congenital, 101, 104
 immunity, 472, 500
 literature reviewed, 100
 in man, 103
 pathology, 103
Trachurus, horse mackerel, 163
Tragelaphus scriptus, bushbuck, 68
Transmammary transmission,
 Ancylostoma, 419
Transmitter substances, general,
 270–3
Transovarian transmission, 142
Transplacental transmission
 Ancylostoma, 419
 Toxoplasma, 101
Transversotrema patialensis,
 cercaria, 191, 192
Tree frog (*Hyla*), 163

548 | Subject index

- Trematoda, Digenea, 178–261
 anatomy, 179
 nervous system, 180
 reproductive system, 183
 tegument, 159, 178, 181
 classification, 157, 178–261
 developmental stages, 192, 505
 egg-shell formation, 187
 eggs, hatching, 188
 larval forms, 190
 immunity, 473–6
in vitro culture, 503–9
 neurobiology, 276, 272, 273
 oogenotop, 183
 physiology, 263–76
 amino acid uptake, 269
 chemical composition, 263
 digestive system, 181
 enzymes, 265
 excretory system, 181–2, 285
 feeding mechanisms, 262
 flame cells, 182, 285
 intestinal digestion, 265
 metabolism, 266
 placental digestion, 265
 types, 197
 see also Digenea
Triatoma barberi, 73, 75
Triatoma brasiliensis, 75
Triatoma dimidiata, 73, 75
Triatoma infestans, 73, 74, 75
 Tribocytic organ, 254
Tribolium confusum, larval
 Hymenolepis, 321, 324, 325
Trichina see *Trichinella*
Trichinella
 antigenic makeup, 481
 chromosome numbers, 393
 expulsion, 480, 480–1, 481
 identification, 393
 larvae, 391, 480
Trichinella nativa, 390, 393
 sylvatic cycle, 393
Trichinella nelsoni,
 epidemiology, 393
Trichinella pseudospiralis, 390
 chromosomes, 394
 crossed with *T. spiralis*, 390
 discovery and characteristics,
 393
 speciation, 392–3
 sylvatic cycle, 393
Trichinella spiralis, 390, 394
 chromosomes, 394
 encysted larvae, 391
 epidemiology, New Guinea,
 232
 immunity, 479–81
in vitro culture, 519, 521
 life history, 390, 392
 morphology, 391
 in pigs, slaughter procedure,
 393
 sibling species, 393
 speciation, 390
 sylvatic cycles, intraspecific,
 393
 Trichinellidae, 389–94
 Trichinosis
 global prevalence, 389–90
 infected food sources, USA,
 390, 394
 literature reviewed, 390
Trichobilharzia ocellata, 251
 parasitic castration by, 191
Trichodectes canis, dog louse, 342
 Trichomonadida, 44
Trichomonas, 45–9
 chromosome number, 48
 classification, 47
 hosts, 45
in vitro culture, 494–5
 metabolism, 53
 morphology, 45, 48
 pathogenicity reviewed, 47
 transmission, 47
 ultrastructure, 45, 46
Trichomonas buccalis, 12
Trichomonas gallinae, 48, 49
Trichomonas limacis, 48
Trichomonas tenax, 48, 49
Trichomonas vaginalis
 metabolic end products, 39
 pathology, 47, 48
Trichosomoides crassicauda,
 394
 Trichosomoididae, 394–5
 Trichostomatida, 144
Trichostrongylus
 immunity, 482–3
in vitro culture, 519
Trichostrongylus axei, 417
Trichostrongylus
colubriformis, 417
in vitro culture, 519–20
 vaccines, 485
Trichostrongylus
retortaeformis, 417
Trichostrongylus tenuis, 417
 Trichuriasis, pathology, 389
 Trichuridae, 388–9
Trichuris, 389
Trichuris muris, 389
 immunity, 479, 481–2
Trichuris suis
 bacillary cell, 391
 egg-shell, 379
Trichuris trichiura
 global prevalence, 390
 morphology, 389
 Trichuroidea, 369, 388–96
 Trickle infections, 479–80
Tricola aperta, snail, 245
 Trigger stimuli, 4, 5, 493
Trigla, gurnard, 163, 299
Trilocularia acanthiaevulgaris
 development in dogfish, 296
 life cycle, 297
 peptidergic substances in, 271,
 362
 Tripeptides, uptake, 13
Tritrichomonas
 hosts, 45
 transmission, 47
Tritrichomonas foetus, 48, 49
 metabolic endproducts, 39
Tritrichomonas muris, 44, 47,
 49
 Troglotrematidae, 198, 230–3
 Trophosome, 369
 Tropisms, *Nippostrongylus*, 415
 Trout, 302, 452
 Truk, Caroline Islands, 151
 Trypanocidal drugs, 82
Trypanophis grobbeni, Golgi,
 60
 Trypanorhyncha, 281
Trypanosoma, 57–75, 71, 80–3
 biochemistry, physiology, 80–3
 classification, 67–8
 Chagas' disease, 73–5
 glycosome, 81, 83
 immunity, 466
in vitro culture, 496–7
 life cycle, 64
 mitochondria activity, 69
 morphology, 58
 parasitaemia fluctuation, 60, 66,
 467
 sexuality, 71
 sleeping sickness, 68–73
 species listed, 66
 terminal transport system, 83
 trypanothione activity, 81
 ultrastructure, 58
Trypanosoma brucei
 chromosomes, 72
 cyclic antigenic changes, 61
 development cycle, 70, 72
 drug inhibition, 82
 epimastigote, 70
 forms
 blood stream forms, 81
 slender and stumpy forms,
 69, 70
 sub-species, 69
 gene exchange, 72
 general account, 68
 glycolysis, 82
 hosts, 67
 reservoir hosts, 68, 72
 vectors, 81–3
 life cycle, 70
 sexuality, 71
 metabolism, 83
 mitochondrion, 70, 81–2
 ploidy, 71
 transmission, 72
 ultrastructure, 58
Trypanosoma brucei
gambiense, 67
 immunity, 466–7
 morphology, 59
 reservoir hosts, 68
Trypanosoma brucei
rhodesiense
 hosts, 67
 immunity, 466–7
 reservoir hosts, 68
Trypanosoma congolense,
 67
 immunity, 466–7
Trypanosoma cruzi
 amastigote form, 65
 biochemistry, 83
 hosts, 66
 immunity, 468
in vitro culture, 497
 isoenzymes, 75
 life cycle, 74
 morphology, 72, 74
 surface antigens, 74
 transmission, 74
 vectors, 73, 75
 zymodemes, 75
 see also Chagas' disease
Trypanosoma dimorphon,
 hosts, 67
Trypanosoma equinum, hosts,
 67
Trypanosoma equiperdum,
 hosts, 60–1, 67
Trypanosoma evansi, hosts, 67
Trypanosoma lewisi
 characteristics, 64–6
 immunity, 65, 466
in vitro culture, 66
 kinetoplast, 59
 life cycle, 65, 66
 mitochondrion, 59
 parasitaemia in rat, 66, 467
 vectors, 65
Trypanosoma mega, 60
Trypanosoma melophagium,
 66
Trypanosoma musculi, 66
 immunity in mice, 466
Trypanosoma nabiasi, 66
Trypanosoma rangeli, 66
Trypanosoma simiae, 67
Trypanosoma theileri, 66
Trypanosoma theodori, 66
Trypanosoma uniforme, hosts,
 66
Trypanosoma vivax, 59, 66
 immunity, 466, 467
 Trypanosomatidae, 62–3
 Trypanosomatina, 43
 Trypanosomiasis, literature
 reviewed, 64
 Trypanothione, discovery, 81
 Trypomastigote, defined, 61, 62
 Tryptaflavin, 59
 Tsetse fly, *Glossina*, 68
Tubifex, 311
 Tubificids, 311
 Psammoryctes, 311
 Tumour necrosis factor, TNF,
 469, 471, 475
 Turbellaria, 157
 Turkana, hydatid disease in, 337
 Turkey (bird), *Syngamus*, 420
 Turkey (country), 346
 Turtle, *Chelodina longicollis*, 278
 TYI-S-33 medium, 494–5
Tylodelphys excavata, 195
 TYM medium, 495
 Typhoon Amy, 151
 Tyrosinase, egg-shell structure,
 184
 UK
 anisakiasis in, 406
 Echinococcus in, chemical
 composition, 351
 Undulating membrane, 47, 60
 Uruguay, 73, 75
 Urethritis, due to *Trichomonas*,
 47
 Urine, oxygen content, 17

- Urocystidium, 293
 Urocystis, defined, 293
 Uroid, 33
 USA
 Acanthocephala, 452
 anisakiasis, 406
 Ascaris lumbricoides, 390
 Diphyllobothrium latum, 307
 Dirofilaria immitis, 425
 hookworm, 418
 Ligule, 316
 Taenia, 331, 337
 Trichinella, 390
 Trichuris, 390
 USSR (former), 78, 346, 393

 Vaccination and diagnosis,
 immunity, 483–90
 Vaccines, 468, 469, 470, 483–6
 against:
 Babesia, 139
 malaria, 126, 469
 Onchocerca, 444
 candidate antigens, 470
 Vaginitis, due to *Trichomonas*,
 47
 Vahlkamfidae, 32

Valvata lewisi, 506
 Variant antigen type (VAT), 59,
 60, 61, 467
 Variant specific glycoproteins
 (VSG), 59, 60, 467
 protein linkages, 83
 surface on trypanosome, 58
 Vasoactive amines, 480
 VAT *see* Variant antigen type
 Vectors, malaria, 128
 Venezuela, 73, 75, 435
 Vietnam, 212
Vinckeia, 110
 Visceral larva migrans, 401,
 404 405
 Visceral leishmaniasis, 79
 Vitamin B₁₂, absorption:
 Diphyllobothrium latum, 308
 Spirometra mansonoides, 310
 Vitamin K, 359
 Vitamin mixture No. 13, 495
 Vitellaria, histochemistry, 179,
 184
 Vitelline globules, egg-shell
 formation, 187, 188
 Vole, 337, 340
 Microtus, 341

 VSG *see* Variant specific
 glycoproteins
Vulpes vulpes, fox, 337

 Wallaby, 353
 Warthog, *Phacochoerus aethiopicus*,
 68
 Water-borne transmission,
 Giardia, 51, 52
 Waterbuck, *Kobus defassa*, 68
 West Cameroon, *T. solium*, in
 man, pigs, 331–2
 Whipworms *see* *Trichuris*
 White Cloud Mountain minnow,
 Tanichthys albonubes, 317
 White-spot, 149
 Whiting, *Merlangius merlangus*,
 163, 170, 203, 205, 300
 WHO, filariasis control, 427
 Wolf, 104, 425
 Woodmouse, *Apodemus*, 397, 417
Wuchereria bancrofti
 immunity, 478
 in vitro culture, 521
 life cycle, 406
 monkey infection, 427
 periodicity, 421, 432

Xenopsylla cheopis, rat flea, 65
Xenopus, toad, 161

 Yemen, 432

 Zaire, river blindness in, 430
Zelleriella, 145
 Ziemann's dots, 127
 Zimbabwe, 390
 Zoitocysts, of *Sarcocystis*, 104,
 105
 Zoonosis
 anisakiasis, 406
 Brugia pahangi, 426
 diocetophymosis, 395
 giardiasis, 53
 hydatid disease, 334
 sarcocystosis, 105
 Schistosoma japonicum, 245
 trypanosomiasis, 68
 WHO definition, 52
Zygoribatula, mites, 342
 Zymodeme
 defined, 28
 Entamoeba, 28
 Leishmania, 79, 80
 Trypanosoma, 75